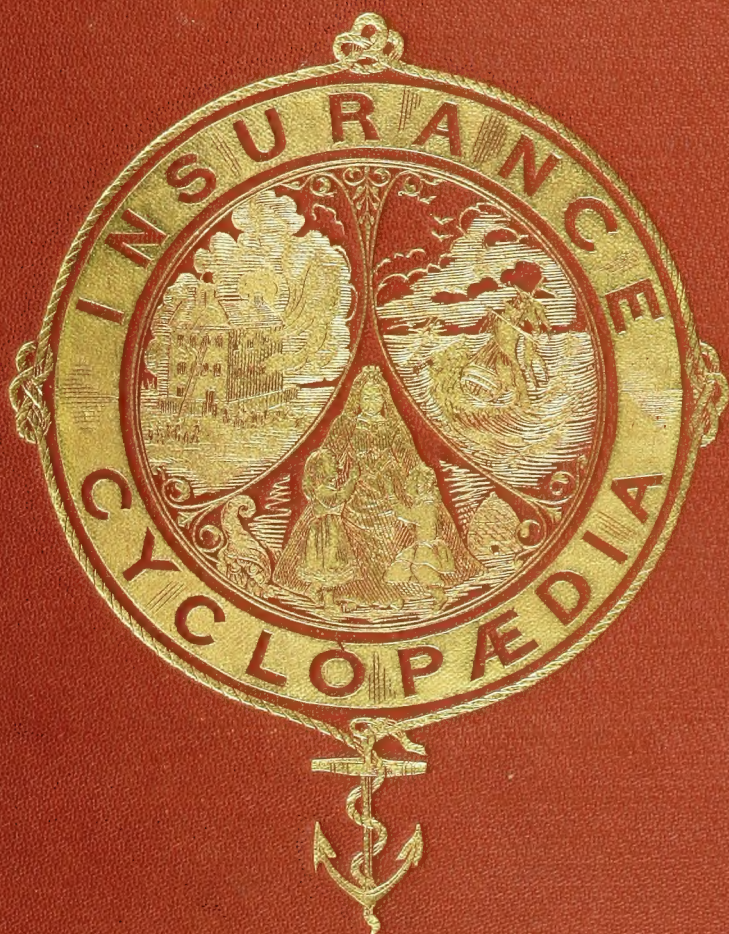
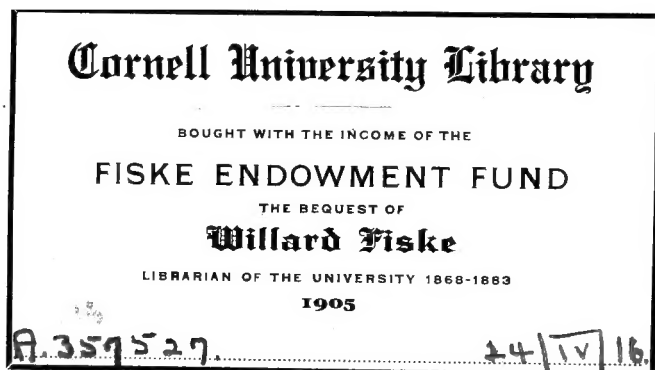




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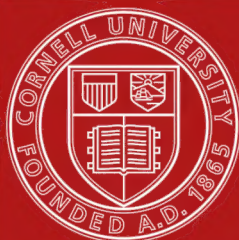
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THE
INSURANCE CYCLOPÆDIA:

BEING

A DICTIONARY

OF THE DEFINITION OF TERMS USED IN CONNEXION WITH THE THEORY
AND PRACTICE OF INSURANCE IN ALL ITS BRANCHES:

A BIOGRAPHICAL SUMMARY

OF THE LIVES OF ALL THOSE WHO HAVE CONTRIBUTED TO THE
DEVELOPMENT AND IMPROVEMENT OF THE THEORY AND PRACTICE
OF INSURANCE: WHETHER AS AUTHOR, MANAGER, ACTUARY,
SECRETARY, AGENCY SUPERINTENDENT, OR OTHERWISE.

A BIBLIOGRAPHICAL REPERTORY

OF ALL WORKS WRITTEN UPON THE SUBJECT OF INSURANCE AND ITS
ASSOCIATED SCIENCES:

AN HISTORICAL TREASURY

OF EVENTS AND CIRCUMSTANCES CONNECTED WITH THE ORIGIN AND
PROGRESS OF INSURANCE, INCLUDING A HISTORY OF ALL KNOWN
OFFICES OF INSURANCE FOUNDED IN GREAT BRITAIN,
FROM THE BEGINNING.

AND ALSO CONTAINING A DETAILED

ACCOUNT OF THE RISE AND PROGRESS OF INSURANCE
IN EUROPE AND IN AMERICA.

AND A

COMPENDIUM OF VITAL STATISTICS.

BY

CORNELIUS WALFORD, F.I.A., F.S.S.,

BARRISTER-AT-LAW;

AUTHOR OF "INSURANCE GUIDE AND HAND-BOOK," "INSURANCE YEAR-BOOK," ETC. ETC.

VOLUME V.

LONDON:

CHARLES AND EDWIN LAYTON, FLEET STREET.

1878.

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TABLE OF ABBREVIATIONS USED IN THIS WORK;

MANY OF WHICH ARE SPECIALLY ADAPTED TO ITS PAGES :—

A.	Accident Insurance	Int.	Interest
Act.	Actuary	Intro.	Introduction
Act of Parl.	Act of Parliament		
Add.	Addition, additional		
Adv.	Advertisement		
Amalg.	Amalgamation	L.	Life, Life Insurance
Ann.	Annual, annum	L.J.	Lord Justice
Ann.rep.	Annual report	Lim.	Limited
Annu.	Annuities, annuity, annuitant	Liq.	Liquidator, liquidation, liquidated
Ap.	Apprenticeship Insurance	Lond.	London
Art. of Asso.	Articles of Association		
Art. of Sett.	Articles of Settlement		
Assu.	Assure, assured, assurance, assurance	M.	Marine, Marine Insurance
Assu. Mag.	Assurance Magazine	Mag.	Magazine
Asso.	Association	Man.	Manager
		Mar. Ins.	Marriage Insurance
		Mort.	Mortality
		Mort. obs.	Mortality observation
		Mut.	Mutual
B.	Birth Insurance		
B. of mort.	Bill of mortality		
Bal.	Balance		
Bon.	Bonus, bonuses	N. Y.	New York
Brit.	Britain, British, Britannia	Non-par.	Non-participating
Bus.	Business		
C.	Christening Insurance	Obs.	Observations
Cent.	Cent.	Off. Liq.	Official Liquidator
C.p.c.	Cent. per cent.	Off. Man.	Official Manager
Cap.	Capital	Ordin.	Ordinance
Chap.	Chapter	Orig.	Original
Co., Cos.	Company, companies		
Comp. regis.	Complete registration	P.a.	Per annum
Con. Act.	Consulting Actuary	P.c.	Per cent.
Consti.	Constitution	Pamph.	Pamphlet
Contin.	Contingencies	Para.	Paragraph
Corp.	Corporation	Parl.	Parliament
		Parl. Com.	Parliamentary Committee
		Parti.	Participation
D. of Sett.	Deed of Settlement	Phil. Trans.	Philosophical Transactions.
Def.	Defendant	Plt.	Plaintiff
Div.	Dividend, dividends, division	Pol.	Policy, policies
Dol.	Dollar	Pop.	Population
		Prelim.	Preliminary
		Prem.	Premium, premiums
Ed.	Edition, editor	Prob.	Probability, probabilities
Eds.	Editions	Prosp.	Prospectus
Edin.	Edinburgh	Prov. regis.	Provisional registration
Ency. Brit.	Encyclopedia Britannica	Pub.	Published, publisher, publication
Endow.	Endowment, endowments		
E. and W.	England and Wales		
Equiv.	Equivalent	R.	Report
Estab.	Established, establishment	Red. prem.	Reduction of premium
Exp.	Experience	Reg.-Gen.	Registrar-General
Expec.	Expectation	Regis.	Registration, Registrar, Registry
		Rep.	Report
		Rev.	Reversion
F.	Fire, Fire Insurance		
F. So.	Friendly Society	S.	Service Insurance
Fid.	Fidelity guarantee	Sec.	Secretary
Fr.	France	So.	Society
		Stat.	Statute
		Stg.	Sterling
G.	Guarantee Insurance	Subs.	Subscribed, subscribers, subscription
Gl.	Glass Insurance		
Gov.	Government		
Gt. Brit.	Great Britain	T.	Table
Guar.	Guarantee	Trans.	Transfer, transferred, translation
H.	Hail Insurance		
Hist.	History		
		U. K.	United Kingdom
		U. S.	United States
Incorp.	Incorporation		
Ins.	Insure, insured, insurance, insurance	V. C.	Vice Chancellor
		V. Sta.	Vital Statistics
Inst.	Institution, institutions	Vict.	Victoria

EXPLANATION TO THE READER.

The design of this work is that it shall be, as far as possible, self-interpreting. All technical terms used in its pages are explained in its pages, in their alphabetical order.

The arrangement of subjects is strictly *Alphabetical*.

The arrangement of articles is, as far as possible, *Chronological*. Dates are given whenever possible. Writers on Insurance subjects generally have a great disregard for chronological exactitude.

Words in Small Capitals placed in brackets, as [USURY], mean that the subject will be further treated of under that head.

When Small Capitals are used in the text without the brackets, it signifies that the subject is, or will be, treated as a separate article.

Offices founded in London or books published there, are not individually so designated in the following pages. The rule we have followed is to state all the exceptions. Therefore, where it is not specifically stated *otherwise*, London is to be assumed.

We are especially desirous of noticing all INSURANCE PAMPHLETS. Many of these are privately printed, or only accessible through their authors. Our thanks will be due for any contributions of this description.

A Table of the principal Abbreviations used in the work is given on the preceding page.

THE ENCYCLOPÆDIA OF INSURANCE.

FRIENDLY SOCIETIES ADVOCATE.—A monthly publication under this title was carried on during the year 1836, after which date we lose sight of it. It was very well edited, and appeared to be the organ of the F. Sos. Institution, founded 1835.

FRIENDLY SOS. ASSO.—Founded about 1863, by an union of the officers of the three county F. Sos. of Hants, Wilts, and Dorset. Its first ann. meeting was held at Salisbury in 1864, under the Presidency of the Rt. Hon. T. S. Estcourt.

The Association afterwards removed to Lond. and enlarged its scope and interests by admitting all F. Sos. into membership who desired it.

It still holds its ann. meetings in the country, the location being determined according to the nature and bearing of the questions to be discussed.

Several valuable papers have been read before this Asso.

FRIENDLY SOCIETIES DISCHARGE ACT, 1854.—The 17 & 18 Vict. c. 56, passed especially to prevent the issue of nomination policies by Life Ins. offices registered under the Friendly Societies Acts.—See **FRIENDLY SOCIETIES**, this date.

FRIENDLY SOS. INSTITUTION.—An asso. for the encouragement and protection of Friendly Sos. founded 1835 for the purposes stated in our hist. of F. Sos. at that date. The period of its existence was, we believe, very brief.

FRIENDLY SOCIETIES, MORT. AND SICKNESS EXPERIENCE OF.—Our purpose is to bring together in their chronological order all the authentic data which has been from time to time made available in regard to the Mort. and Sickness experienced by F. Sos. The history and other details regarding the T., etc., here given, have been already referred to in more or less detail in the preceding art. We only add such supplemental details as are essential to the understanding of the data presented.

It is no part of our design here to attempt to elucidate a "Law of Sickness." It is certain indeed that the experience of F. Sos. can very seldom, if ever, represent the true Law of Sickness. The experience of F. Sos. is limited by the operation of the rules of such Sos. Thus, members are hardly ever "free of the box" until after 6 months of membership. Then, again, after 6 months' benefits at any time, they are usually put upon a lower scale of payment, which some members will not claim for. Finally, they are reduced to "superannuation," under which they count as being always sick. Again, some of the members never claim (especially the honorary class) upon the funds. These circumstances specially modify the Sickness Experience of F. Sos.

1771.—The first attempt at calculating the rates of contribution for certain specific benefits in regard to F. Sos. was made this year by Dr. Price. We have already given an outline of his proposal under this date, in the preceding historical art. F. Sos.

1789.—Dr. Price's Hypothesis in regard to sickness was propounded for the purposes of a Gov. Bill in respect to the poor, this year. The details of its assumptions we have given in the preceding art. under this date. We refer to it here because there was a traditional belief that the assumption as to the rate of sickness under age 32 was based upon actually observed experience; but where or how the experience was obtained is not recorded.

It is to be remarked that the average of Dr. Price's assumptions for all ages up to 64 gives 1 sick out of 33'96—say 1 in 34 members annually. This unit of comparison will be found valuable in regard to other estimates and T. which follow.

1820 (or earlier).—An inquiry was instituted in the village of Methvin, Perthshire, for the purpose of ascertaining the sickness for 1 year among the whole male pop. of the parish over the age of 15, in view of estab. a F. So. upon correct data. One of the results of the inquiry was to ascertain that 1 in every 21 of the male pop. of this parish could not at any time, in consequence of mental or bodily imbecility, have gained ad-

mission into any F. So. requiring entrants to be of good constitution, and capable of earning a livelihood, vide *Rep. of Highland So. 1824*.

1823.—This year T. were prepared for the *Southwell* F. So., under the advice of Mr. W. Morgan and Mr. Friend, which, while based upon the assumptions of Dr. Price in 1789, were so graduated in the light of more recent experience as to be regarded as entirely safe.

The average proportion of sickness up to age 64 assumed in the construction of these T. was 1 in 28·74 persons annually. Or dividing the periods of life, the following were the results assumed in its construction :

		Proportion of Sick Members.
From 10 to 25 years	1·1250 weeks' sickness	I in 46'222
25 „ 30 „	1·3750 „	I „ 37'818
30 „ 40 „	1·6250 „	I „ 32
40 „ 50 „ and to 65	1·8795 „	I „ 27'66

This was the *Northampton Sickness T.*; but with some modification of the assumptions of Dr. Price. (See 1825 and 1829.)

1824.—The first actual data drawn from experience in regard to the rate of *Sickness* experienced by F. Sos. was pub. by the Highland So. of Scotland this year, in its *Rep. on Friendly or Benefit Sos.*, the materials for which had been obtained under the circumstances we have stated in the preceding historical art. This data was contributed by 70 F. Sos. situated in 16 out of the 33 counties of Scotland, viz. Ayr, Berwick, Cromarty, Dumfries, East Lothian, Edinburgh, Forfar, Lanark, Linlithgow, Peebles, Perth, Renfrew, Ross, Roxburgh, Selkirk, and Stirling. The experience of the different contributing Sos. ranged over periods of from 3, 10, 20, 30, 40, and 50 years. The observations did not extend to *Deaths* (which was afterwards a source of regret to the Committee), but to *Sickness* only, in relation to age.

Viewing the results generally, it appeared that from 20 to 50 years of age, the sickness increased gradually, with the advance of age. The *quantity* of sickness was pretty nearly, although not exactly *one-tenth* part of a week for every 5 years of age. Thus in the decade from 40 to 50, it amounted to something more than *one week* ann. to each individual; but in the next decade, from 50 to 60, the sickness approached to *double* this amount, being nearly 2 weeks ann. to each individual. In the decade from 60 to 70 the advance in the rate of sickness was still more rapid, as compared with the former decade, being in fact nearly *trebled*—it was nearly 6 weeks ann. to an individual. The total sickness for 50 years, viz. from the commencement of the 21st to the completion of the 70th year of each individual, was nearly 2 years p. member.

The number of "Free Members" included in the obs. was 104,218.

It was found that in some of the contributing Sos. it had been the custom for some of the members—viewing the Sos. in the light of charitable inst.—not to claim the sick allowance to which they were entitled under the regulations. A correction was accordingly made in this respect; or, in the words of the rep., "The persons reporting the returns of sickness have corrected them by suppositions, making an add. to the quantity of sick allowances actually paid, for that sickness for which it is supposed no allowance was demanded."

It was further pointed out that the *sick allowances*—or rather the different descriptions of sickness to which different allowances are in practice assigned—varied in different Sos. "Some distinguished *bedfast*, *walking*, and *superannuation*, or permanent sickness, assigning distinct allowances to each; while others distinguish the sickness according to its continuance, assigning different allowances for sickness of the 1st, 2nd, 3rd quarter, etc., or for other periods recognized by the particular rules." The proportions which these different descriptions of sickness bear to each other had not been generally given in the returns to the Highland So. Thus it had been necessary to found the computations on one uniform average rate of sick allowance; suggesting at the same time means by which existing Sos., from their own experience, might ascertain the average rate corresponding to their particular rates of allowance; and submitting approximations to enable new Sos. to reduce the particular rates they proposed to adopt, for each species or duration of sickness, to an average rate; and thence to ascertain from the computations the contributions requisite to defray the particular rate which they meant to adopt.

The Committee further say that the objects they had kept in view in the preparation of these T. were:—1. To enable F. Sos. to calculate the proportion which, upon an average, their contributions ought to bear to their allowances—reference being always had to the age of admission. 2. To ascertain how far their means are equal to their engagements. 3. To show the proper increase of contribution to meet a deficiency of funds—or (4) the increased distribution which a surplus can afford—so as to enable them to accommodate their arrangements to their circumstances.

The returns to the Highland So. of sickness among persons over 70 years of age had been considered too limited to be the basis of any computations of sick allowances which could be safely relied upon.

It was deemed desirable to show separately the rate of ann. contributions for each class of allowance usually made by F. Sos. to their members, viz.:

1. Of weekly sick allowances from 21 to 70.
2. Of life annu. [superannuation] during future life to each member reaching 70.
3. Of endowment to be paid at the death of each member for funeral expenses or other purpose.
4. Of annuity to the widow of each member.

The rate of 4 p.c. int. was assumed in the calculations of the money values of the T.

It will be sufficient for our present purposes here to reproduce the following T. showing the quantum of sickness, expressed in weeks, and thousandth parts of a week, which an individual was found to undergo, taking an average life, *during each year of life* from 20 to 70. It may be noted that in the returns made by the Sos. the sickness was only given for periods of 10 years; but as it was found to receive an increase in each period, it was concluded that if it had been given for each year instead of each decade, it would have been found to increase annually. *An ann. uniform increase was therefore assumed through each decade.*

T. showing the quantum of sickness which an individual, on an average, experiences each year from 20 to 70 years of age, shown in weeks and decimals of a week.

Age.	Weeks of Sickness at that Age.	Age.	Weeks of Sickness at that Age.	Age.	Weeks of Sickness at that Age.	Age.	Weeks of Sickness at that Age.
21	·575	34	·663	47	1·108	59	2·230
22	·576	35	·675	48	1·186	60	2·346
23	·578	36	·688	49	1·272	61	2·500
24	·581	37	·702	50	1·361	62	2·736
25	·585	38	·718	51	1·451	63	3·100
26	·590	39	·737	52	1·541	64	3·700
27	·596	40	·758	53	1·633	65	4·400
28	·603	41	·784	54	1·726	66	5·400
29	·611	42	·814	55	1·821	67	6·600
30	·621	43	·852	56	1·918	68	7·900
31	·631	44	·902	57	2·018	69	9·300
32	·641	45	·962	58	2·122	70	10·701
33	·652	46	1·032				

Note.—From this T. it is seen that the quantum of sickness increases very slowly for many years at first, but afterwards very rapidly. Thus in the 21st year of age it is a little more than 4 days to each individual. This quantity increases gradually till it becomes ·621 of a week, or $4\frac{1}{2}$ days in the 30th year of age—making the average of the 10 years from 20 to 30, ·5916 of a week, or $4\frac{1}{4}$ days, as the returns give it. In the 50th year of age the quantum of sickness is only 1·361 weeks, or 1 week and $2\frac{1}{2}$ days; and in the 60th 2·346 weeks, or 2 weeks $2\frac{1}{2}$ days; but in the 70th year it amounts to 10·701 weeks, or 10 weeks and 5 days nearly.

This T. shows the sickness to be expected during the earlier periods of life to be considerably less than that assumed by Dr. Price in 1789, or by the Southwell T. in 1825 (which in fact was the same). Whether this difference was owing to a defect in the form in which the statement of facts was required, to the defective mode in which the requisition was answered, *to the superior healthiness of the districts* to which the returns applied, or to what other cause, has been the subject of much speculation; and was especially so to the witnesses examined before the Parl. Committee of 1825—many of whom were indeed prejudiced in favour of Mr. W. Morgan's and Mr. Friend's T. based upon the hypothesis of Dr. Price already referred to.

The differences in the two T. are shown in the following short summaries:

DR. PRICE.		HIGHLAND SO.'S T.	
Under 20 years	results not given	Under 20 years	·3797 weeks of sickness
„ 32 years	1·0833 weeks of sickness	From 20 to 30	·5916 „
From 32 to 42	1·3514 „	„ 30 „ 40	·6865 „
„ 43 „ 51	1·6249 „	„ 40 „ 50	1·0273 „
„ 51 „ 58	1·8957 „	„ 50 „ 60	1·8806 „
„ 58 „ 64	2·1660 „	„ 60 „ 70	5·6337 „

Or the comparison may be made in another manner:

DR. PRICE.		HIGHLAND SO.'S T.	
Proportion of Sick Members.		Proportion of Sick Members.	
Under 20 years	not stated	Under 20 years	1 in 131·69
„ 32 „	1 in 48	From 20 to 30	1 „ 87·89
From 32 to 42	1 „ 38·4	„ 30 „ 40	1 „ 75·74
„ 43 „ 51	1 „ 32	„ 40 „ 50	1 „ 50·61
„ 51 „ 58	1 „ 27·42	„ 50 „ 60	1 „ 27·65
„ 58 „ 64	1 „ 24	„ 60 „ 70	1 „ 9·23

Thus the quantum of sickness given by Dr. Price is greater in every period except the two last.

Mr. W. Fraser, in his *Remarks on the Principles and Defects of the present Asso. for Life Assu.*, etc., 1831, gives us some insight into the difficulties which the Committee had in determining the Mort. T. to adopt. They had examined the *Northampton T.*, the *Carlisle*, and Milne's *Swedish T.*

In this state of matters the Committee . . . were much puzzled with regard to the rate of mort. to be adopted. It was, however, agreed by all, that the *Northampton T.* was inapplicable, and therefore by the advice of several scientific gentlemen, well qualified to decide, the Committee ultimately resolved to take an average of the *Northampton*, *Carlisle*, and *Swedish T.*; and a new Mort. T. was calculated from these accordingly.

We do not give the mort. rate so deduced because it was not based upon the experience of F. Sos.: it was indeed only applied to their purposes pending their own true rate being ascertained.

See note on another point as affecting this T. in our review of Mr. John Finlaison's T. 1829.

It may be well to state here that about 1851, the Highland So., having discovered that these T. were not to be depended upon, gave notice of their withdrawal. This fact was communicated to the Select Parl. Committee on F. Sos. which sat in 1852. [Rep. p. 62.]

It may be useful to note at this point that in Appendix B. of the 3rd Rep. of the F. Sos. Commission (pub. 1873, p. 222) there is included a paper "On our present knowledge of the Mort. and Sickness of Members of F. Sos." This is by Mr. Neison, jun.—an experienced authority upon the subject. It consists mainly of criticisms upon the preceding and some of the following data, and contains many instructive points. As our present purpose is to review the various authorities from an independent standpoint, we have not deemed it necessary to quote Mr. Neison's comments here.

1825.—Mr. John Finlaison, who was examined before the Select Parl. Committee on F. Sos. which sat this year, handed in to the Committee some T., which are pub. in the Appendix of the Rep. [B. 9], which show the contributions required by a F. So. in order to safely grant the following single or aggregate benefits at the ages stated:

Benefits: 1. Weekly allowance of 10s. in sickness.

2. Weekly allowance of 5s. for life after 65 [Table 1], or of 4s. after 60 [Table 2].

3. Ten pounds for burial money.

The following T. show the total value of the 3 benefits—the yearly prems. ceasing at the age of 65 [Table 1.], or 60 [Table 2].

Age.	TABLE I.—Benefits as above.								TABLE II.—Benefits as above.									
	Single Prem.				Yearly Prem.				Single Prem.				Yearly Prem.					
	For a Male.		For a Female.		For a Male.		For a Female.		For a Male.		For a Female.		For a Male.		For a Female.			
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
18	25	13	04	32	12	9	1	5	9½	1	10	11	27	17	3	34	15	04½
20	23	3	7½	34	13	5½	1	7	11	1	13	5½	29	11	5½	36	19	14½
22	27	14	44	36	13	08	1	10	04	1	16	03½	31	6	5½	39	2	4
24	30	9	14	38	15	10½	1	12	44	1	19	0	33	5	11½	41	9	13½
26	32	7	04	41	2	34	1	15	0	2	2	4½	35	9	14	43	19	9
28	34	7	34	43	12	08	1	18	08	2	6	13	37	14	11	46	14	8
30	36	10	10½	46	7	4	2	1	6	2	10	5	40	4	6½	49	14	5½
32	38	16	44	49	4	10½	2	5	4½	2	15	2½	42	16	6½	52	17	5½
34	41	5	84	52	7	11	2	9	10½	3	0	9½	45	12	11½	56	6	6
36	43	19	3	55	7	4	2	15	14	3	7	2½	48	14	24	60	2	6
38	46	18	0	59	13	7	3	1	34	3	14	9	52	1	4	64	6	0
40	50	2	9½	63	16	8½	3	8	7½	4	3	7½	55	15	6½	68	17	0½
42	53	6	94	68	0	5	3	16	11	4	13	8½	59	9	8½	73	9	4
44	56	16	84	72	11	8½	4	7	0½	5	5	11½	63	10	9	78	9	11½
46	60	13	2	77	11	2½	4	19	74	6	0	11½	67	19	5	83	19	8½
48	64	16	5	82	10	9½	5	15	7	6	19	9½	72	15	11½	89	19	5½
50	69	9	94	88	18	10½	6	16	44	8	4	0	78	4	14	96	10	42

The sums herein given can be divided into weekly or monthly contributions.

Mr. Finlaison shows the advantage attending the calculation of the prems. in single sums as follows:

It remains only to mention to your Hon. Committee the very simple means by which Benefit Sos. may, in any stage of their progress, ascertain, from the T. before set forth [of which the above is only an abstract, in reference to the class of benefits therein named], whether they are solvent or otherwise.

To judge of this, they have only to state the number of members whom they have on their roll at each age, and consider themselves as beginning a new So. at that moment.

They should insert the single prem. which each member would have to pay if he were to enter the So. at his then age, for the sickness allowance, for the superannuated allowance, and for the burial money, united together, and cast the whole into one sum. They may then . . . value the yearly contribution of every member at his advanced age; and in like manner cast the whole into one sum, and abstract this amount from the former. *The remainder is the capital that ought to be in their box.*

Mr. Finlaison concludes by remarking that if, "in present uncertainty as to the fact of the frequency and duration of sickness among the labouring classes," we were permitted to assume what may seem a reasonable hypothesis, the following might perhaps be hazarded merely as speculation:

1. That every sickness terminating in death is, on a medium, of 5 weeks' duration.
2. That the sickness which terminates in death is, on a medium, *one-twelfth part only* of the sickness to which mankind is subject.

"The consequence of such an hypothesis would, according to my T. of Mort. of the male sex, be in practice precisely the same for all ages under 50, as the values resulting from the data supplied by the Highland So."

This was the first time the sickness of *Males and Females* had been calculated separately.

The data upon which these rates were based is explained in the following words, in a joint Rep. by Mr. Finlaison and Mr. Griffith Davies, made to the Parl. Com. of 1827 (and given in the Appendix to the Rep. of that year, p. 133):

Mr. Finlaison had already given much consideration to this subject, as appears by his evidence before the Select Com. in 1825, in which will be found T. of sick allowances, computed from 3 elementary principles involved in all calculations of this nature, viz.:—1. The quantum of sickness assumed to prevail. 2. The law of mort. 3. The int. of money. In regard to the recurrence of sickness, Mr. Finlaison had no other materials than the Rep. of the Highland So.; but acting under a persuasion that the ratio of sickness therein exhibited was much less than that which would be found to prevail among the Sos. on which the obs. were made, he assumed the int. of money as low as 3 p.c. by way of compensation. The law of mort. for each sex separately he adapted from his own obs. on the Gov. Life Annuitants.

We are glad to make this point clear, because some confusion had arisen regarding it.

The Rev. J. T. Becher, in his evidence before the same Committee, handed in the following return, based upon his observations:

Proportions of Different Kinds of Sickness.

Of 10 weeks' sickness among persons of all ages, 2 may be assumed as Bed-lying Sickness; 5 as Walking do.; 3 as Permanent do. In all, 10.

Or, if the allowances are regulated by the duration of sickness, then: Of 10 weeks sickness, it may be assumed that 2½ weeks will be sickness of the 1st quarter; 3 of the 2nd and 3rd do.; 4½ of unlimited duration. In all, 10.

The allowance is usually on a decreasing scale—being high during the first 3 months, and graduating down with increase of duration.

But there was in the "Supplementary Appendix" to the Rep. of 1827, a T. probably of far more real value than any previously noticed. This was the joint production of Mr. John Finlaison and Mr. Griffith Davies, and was prepared at the request of the Committee. These gentlemen say in their joint Rep.:

The Select Committee . . . having required us . . . jointly to recommend such a scale of rates as might be sufficient, in practice, to warrant the benefits undermentioned: we have accordingly, for the reasons set forth in the annexed paper, concurred in recommending the rates comprehended in the following brief Rules, which, with ordinary precautions to prevent abuse, will, in our judgment, be found adequate to insure the objects in view.

First, turning to the "annexed paper," we find it stated:

The actuaries have accordingly complied with this desire, except in so far as regards the exhibiting separate T. of the rates for insuring £10 at death; and having found that they could with unanimity recommend one T. comprehending the 3 benefits, they are anxious to explain . . . not only the grounds on which they have rested their general conclusions, but also their reason for suggesting the adoption of the rates mentioned . . . rather than the use of T. containing many pecuniary valuations. . .

On the present occasion, the actuaries, though perfectly aware of the material difference in the mort. to which males and females are respectively subject, have nevertheless, for several reasons, determined to adopt, as one of the elements of their calculation, the average mort. of the 2 sexes. Mr. Davies has therefore followed the *Carlisle* observations, and Mr. Finlaison has taken the mort. which is the mean of what he had observed to prevail among the separate sexes [in his *Gov. Annuitants T.*]. No practical danger will ensue from this proceeding, because the rates which result will be sufficient for any So. composed of equal numbers of each sex; and rather more than sufficient in ordinary cases—as it is well known that males very greatly preponderate in most Sos.

With respect to the quantum of sickness to be assumed, there are two preliminary obs. necessary—1. That in calculation no abatement ought to be made for a reduced allowance called walking pay, during convalescence, or very protracted chronic illness. Mr. Finlaison's reason for this in his former evidence stands valid; namely, that it must always be a matter of discretion with the managers of a So. at what point bed-lying pay should cease, and walking pay commence; and that the saving from the reduced allowance should stand against occasional imposition, to which F. Sos. must necessarily be subject.

They then review the rate of sickness which had been found by Mr. Finlaison to prevail in the army, [SICKNESS, LAW OF], and see 1827 this art., and they say hereon:

Supposing that after the age of 50 the sickness in the army should follow the course of mort. indicated by the *Carlisle T.*, the result would be from 50 to 60, 4'06 weeks' sickness; and from 60 to 70, 8'90 weeks every year. Now this is a rate of sickness which certainly exceeds all estimate of what has hitherto prevailed among the labouring classes, and arises, no doubt, from causes to which the members of F. Sos. in general would not be subject. On the other hand, it appears that the sickness reported to the Highland So. was, under 50, only '76 decimal parts of a week; between 50 and 60, 1'88 weeks; and between 60 and 70, 5'63 weeks, in every year. Contrasting this with what is above stated, the actuaries, after much consideration, are of opinion that it falls short of the proportion that would be experienced in the practice of F. Sos. in England, in the same degree that the sickness of the army is excessive. They are therefore satisfied in their own minds that for the purposes of this calculation, a mean between the two would be a very near approximation to the sickness that in reality occurs. Such a mean exhibits 1'55 weeks under the age of 50; 2'97 weeks from 50 to 60; and 7'27 weeks from 60 to 70. It may be observed that the sickness in this case under 50 is the same as that assumed for the construction of the *Southwell T.*

On the materials thus laid down, the actuaries proceeded separately to compute the values of the 3 benefits contemplated by the Committee.

As we have said, the 3 benefits are given combined, as follows:

T. of the Single and Monthly Payments for insuring in *Sickness* a weekly allowance of 10s. Bed-lying pay, and 5s. Walking pay, ceasing at the age of 70; *an allowance for Life* of 5s. weekly after the age of 70; and a sum of £10 payable at *Death*. *The Monthly Payment to cease at the age of 70.*

Age at last Birthday before Admission.	Single Payment.			Monthly Payment.	Age at last Birthday before Admission.	Single Payment.			Monthly Payment.
	£	s.	d.	s. d.		£	s.	d.	s. d.
18	24	18	8	2 3½	35	34	4	4	3 8
19	25	5	7½	2 4	36	35	1	1½	3 9½
20	25	13	0	2 4½	37	35	19	1	3 11½
21	26	0	10	2 5¼	38	36	18	5	4 1½
22	26	3	11½	2 6	39	37	18	10½	4 4
23	26	17	6½	2 6½	40	39	0	4	4 6
24	27	6	7	2 7¼	41	40	3	5	4 8¾
25	27	16	0½	2 8	42	41	8	6½	4 11½
26	28	5	11½	2 9	43	42	14	7½	5 2½
27	28	16	3½	2 9¾	44	44	12	4	5 6
28	29	7	4	2 11	45	45	11	6	5 9½
29	29	19	0	2 11½	46	47	2	1½	6 1¼
30	30	11	4	3 1½	47	48	14	4½	6 6
31	31	4	6	3 2¼	48	50	8	5½	6 11¼
32	31	18	5½	3 3¾	49	52	4	11	7 4¾
33	32	13	3	3 5	50	54	3	3½	7 11
34	33	8	5½	3 6¼					

We next reach the "Rules" to which these 2 actuaries have referred, and which are important as embodying the main regulations on which a So. using the preceding T. should be founded. They are ten in number:

1. Any So. formed for the mutual relief of its members in sickness and old age may consist of persons of either sex; the females to be admitted on precisely the same terms as the males.
2. Its objects should be limited to three benefits, viz. a weekly allowance of 10s. in sickness, ceasing at the age of 70; a weekly allowance of 5s. commencing at the age of 70, and continuing for life afterwards; and a sum of £10 for burial money, payable whenever a member shall de cease.
3. No one shall be received a member who is more than 50 years old, or who is in any degree unhealthy at the time proposed for admission.
4. No payment shall be required from any member after the age of 70; but to that age every contribution is payable, whether the party be in sickness or health.
5. Whoever is admitted at 31 years of age shall afterwards pay a monthly contribution of 3s. 1½d.
6. Any member admitted younger than 31 shall pay 3d. less every month for each year of age short of 31.
7. Any one admitted older than 31 shall pay 1½d. more every month for each year of age above 31 and under 41.
8. Whoever is admitted at 50 years of age shall pay 7s. 9d. every month.
9. But whoever is admitted between 40 and 50 shall pay 4d. less every month for each year of age short of 50.
10. None of those contributions shall ever be applied to any purpose but to the 3 objects above stated; and the expense of management and all other charges whatsoever shall be defrayed from the subs. of hon. members, if any; from admission fees and fines, or by means of separate assessments expressly made for the occasion.

1826.—On the estab. of the *Dorsetshire* F. So. this year, the Rev. J. T. Becher supplied its founders with a T. of contributions which was a modification of those derived from his *Southwell* T. In their preparation he had assumed int. at the rate of 4½ p.c., because the Gov. Debentures, in which F. Sos. were allowed to invest their funds, bore that rate or upwards.

In the evidence taken by the Select Parl. Committee on F. Sos. in 1827, the *Dorsetshire* T.—as it was then termed for the sake of distinction—engaged much attention; but during the sitting of this Committee Mr. Becher calculated a new T. (prob. on the same data—although what *this* precisely was is by no means clear) at 3½ p.c. int., of which we shall give an account under 1827.

Mr. Wm. Morgan said before this Committee (referring to the orig. T.): "I think Mr. Becher's is a very good T.; there can be no better in my opinion; they have adopted it in Hampshire and in other places." (p. 48.)

The Committee in its Rep. (p. 9) says:

It thus appears that the *Dorsetshire* T. requires in a *single payment* more than Mr. Finlaison's; but somewhat less in monthly payments. The different proportion which the monthly bears to the single payment arises from the difference in the rate of int. The higher the rate of int., the smaller will be the monthly or ann. equivalent to a single prem. payment.

The annu. [superannuation] portion of the T. was referred by the Parl. Committee to the five following actuaries, and their respective opinions shortly stated were: Mr. Francis Baily, "Sufficient for the purpose intended, on the presumption that the rate of int. [realized?] is 4½ p.c." Mr. Gompertz, "Either T. may be safely adopted" [he having sent a T. in]. Mr. Milne, "If all persons in the lower classes throughout Eng. were

formed into one F. So., I believe these rates of contribution might be safely adopted for that So." Mr. Griffith Davies, "I cannot conscientiously say that I think the scale of contribution adequate to provide for the annu. proposed." Mr. John Naylor, "The contributions are not such as I should recommend as being perfectly safe for F. Sos. in general." See Rep. pp. 113-18.

1827.—During the sitting of the Select Parl. Committee on F. Sos. this year, much attention was again directed to the subject of the contributions to be required of the members for the different classes of benefits to be secured. Attention was again drawn to the T. which had been prepared by the Rev. J. T. Becher for the *Dorsetshire* F. So.—and which was accordingly, for distinction, called the *Dorsetshire* T., of which we have already spoken; but before the sitting was concluded, Mr. Becher handed in: "Tables for F. Sos.: Calculated and Recommended by the Rev. J. T. Becher, M.A.—18th June, 1827." The date here given may or may not be material; that is to say, it may relate to the date of giving in only: or it may imply a change as against his T. of an earlier date. We believe that the only change prob. is the reduction of the rate of int. assumed in the preparation of the T. from $\frac{4}{3}$ to $\frac{3}{4}$. Here is an abstract of it:

T. showing the *Single* and the *Monthly* Contributions for assuring 2s. per week during SICKNESS *Bed-lying* pay, and 1s. per week *Walking* pay; a weekly allowance (SUPER-ANNUATION) of 1s. after the age of 65; and £2 at DEATH.

Class r.	Assu. of Weekly Pay in Sickness.			Assu. of 1s. Weekly Pay after 65.			Assu. of £2 at Death.			TOTAL.		
	Single Contribution.	Monthly Contribution.		Single Contribution.	Monthly Contribution.		Single Contribution.	Monthly Contribution.		Single Contribution.	Monthly Contribution.	
Age last Birthday.												
Years.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
10	2	2	0	2	19	7	0	13	4	3	14	11
15	1	19	10	1	4	2	0	14	7	3	18	7
20	1	17	7	1	10	4	0	15	8	4	3	7
25	2	3	8	1	18	9	0	16	7	4	19	0
30	2	8	5	2	9	9	0	17	8	5	15	10
35	2	4	9	3	4	6	0	18	10	6	8	1
40	2	6	9	4	4	5	0	1	0	7	11	2
45	2	1	0	5	12	3	0	1	1	8	14	9
49	1	15	7	7	2	9	1	2	9	10	1	1

By a multiple of the figures of any of the columns the cost of a larger measure of benefit for the particular class in view may be easily obtained.

It will be observed that the benefit of children's endowments is not included.

Mr. Becher offered the following obs. on the T.:

1. The ages in this and in the following T. are the ages at admission. 2. The monthly contributions are to be paid once in every calendar month, and to continue invariable until they cease. 3. The monthly contributions and the allowances during sickness are to cease when the members severally attain the age of 65 years. . . .

The above calculations are made according to the *Northampton* T. at the rate of $\frac{3}{4}$ p.c. int., which raises the contributions required for sickness, and the annu. in old age, as high as if the prems. had been computed by the *Carlisle*, or the *Equitable Experience* T. at the rate of $\frac{4}{3}$ p.c. int.

The rate of int. allowed by Parl. to F. Sos. is £4 11s. 3d. p.c., accumulating half-yearly by compound int., so as to yield £4 12s. 3d. p.c. as the ann. rate of int.

Therefore it is assumed that $\frac{1}{2}$ p.c. computed upon the ann. income of such Inst., or 2s. 6d. in the £, may be applied towards discharging the expenses of man. and medical attendance—*premising that no member is to be entitled to any allowance for sickness during the year next after admission.*

Should the expense of man. exceed $\frac{1}{2}$ p.c. upon the ann. income, any such excess must be defrayed either by voluntary donations or subs., or by calling upon each member for an add. contribution.

Mr. Finlaison, in his evidence before the Committee last named, gave a statement of the rate of sickness found to be prevailing in the *British Army*, as follows: From the official returns of the Adjutant-General's office, it appeared that in 24 monthly musters of 313,695 men, all under 50 years of age, there were 14,049 disqualified from military duty by indisposition—from which it resulted that each man on an average suffered 2'33 weeks' sickness in the year.

1828.—About this date Sir J. W. Lubbock computed a series of money values from the *Chester* T. of Mort., first pub. by Dr. Price in 1783. From these we may give the following as examples, as applicable to the purposes of F. Sos.—the rate of int. assumed being 3 p.c.

	Male.	Female.
1. Prob. of a person at 25 living to 65	35504	44556
2. Prob. of a person at 65 living to 80	29881	34586
3. Value of £1 at age 25 to be received at 65	10883	13658
4. Value of immediate annu. on life aged 25	18'556	19'336
5. Value of immediate annu. on life aged 65	8'777	9'577
6. Value of temporary annu. from age 25 to 65	17'608	18'043
7. Value at 25 of deferred annu. to commence at 65	9475	12923
8. Yearly payment equiv. to No. 5 to be made from 25 to 65	05091	06786

This accomplished mathematician had a very high appreciation of the value of the *Chester T.* The values of annu. here given were computed on an unusual principle, which gives an excess of value over the common method, especially in advanced age.

1829.—By the F. Sos. Act of this year—10 Geo. IV. c. 56—it was enacted that all F. Sos. enrolled under its provisions should make quinquennial returns of the mort. and sickness experience of its members. For full details of requirements hereon see preceding historical art. at this date. This was an important step.

This year there was ordered by the House of Commons to be printed: *Rep. by John Finlaison, Actuary of the National Debt, on the Evidence and Elementary Facts on which the T. of Life Annu. are founded*—usually known as Mr. Finlaison's "Rep. on Law of Mort. of the Gov. Life Annuitants"; wherein it is explained that subsequently to the Parl. Reports of the Select Parl. Committees of 1825 and 1827, "Mr. Finlaison had the means of investigating, on a very extensive scale, the extent and duration of sickness among the industrious classes. *The experience of a So. in Lond. for the 6 years preceding Midsummer, 1827*, was subjected to examination, by his causing their records to be so reconstructed as to show, with the utmost accuracy, the time, the contributions paid, and benefits claimed by each individual of the many thousand members composing the So., all classed according to age." The whole process was conducted under the personal inspection of Mr. Finlaison, by his trained official assistants (after office hours). The result was as follows:

At the undermen- tioned periods of life respectively.	The total No. of years for which contribu- tions were made, con- sidering the en- rollment of each to July 1827—was as follows.	But of this time they collectively failed to contribute, on account of desertion (being a year by deaths) as under.	So that the time dur- ing which contributions were actually paid was only as follows.	While the total time for which sickness was claimed and allowed was as under.	So that by proportion, our members constantly contributing, there was always the following number sick.	Which is very nearly the same as if each person were liable to the following rate of sickness in a year.
From the age of	Years.	Years.	Years.	Years. Days.	Members.	Days.
20 to 25	2326'	805'	1521'	29' 190	1941	7
25 " 30	5079'	2178'	2901'	57' 24	1967	7
30 " 35	5084'	1969'	3115'	60' 158	1940	7
35 " 40	4408'	1610'	2798'	66' 291	2387	8½
40 " 45	4892'	1594'	3298'	86' 228	2626	9½
45 " 50	3486'	992'	2494'	65' 67	2614	9½
50 " 55	2345'	653'	1692'	45' 289	2706	10
55 " 60	1320'	420'	900'	33' 101	3698	13½
60 " 65	.....	.....	.....	.....	5700	21
65 " 70	.....	.....	.....	.....	10804	39½
70 & upwards	.....	.....	.....	.....	31723	116

In respect of the blanks in the lower part of the 2nd, 3rd, 4th, and 5th cols., the Lond. So. supplied no information after the age of 60. "The three following periods are therefore assumed from the *Highland So.'s Rep.*, which is very likely to be correct at these advanced periods: at least no other information is extant."

From the foregoing data the following "practicable T." was computed: "Let an allowance of 10s. a week in sickness continue till the age of 65; a pension for life unconditionally afterwards of 1s. a day; and £15 payable at death, be the benefits proposed by any So. Let the conditions further be, that all contributions to be exacted from the members shall cease at the age of 65. The following T. shows the value thereof, assuming always that the funds of the So. can be improved by int. at the rate of 4 p. c.; and that the expense of man. is to be made good by some other assessment." We limit the decimal fractions to three places—in the orig. they are extended to 6 and sometimes 7 places: [See Table on next page.]

The last 3 cols. are inserted in case a So. should proceed on the simple plan of exacting 2s. 6d. a month from each and every member, and an entrance fine of 30s.—rejecting all candidates above the age of 21, who should not pay in add. the fines mentioned in the last col.

Mr. Finlaison (its author) offers the following obs. on this T. as contrasted with the *Highland So.'s T.* (1824):

One circumstance is sufficiently remarkable, namely, that if under the age of 50, the whole time of the members, as stated by that [*Highland So.*], be diminished on account of desertion in the proportion above exhibited [in his own T.]; and if the residue or net time for which contributions would thus appear to have been in reality paid, be compared with the sick time so also reported, the result is a perfect coincidence, even to a day, with the sickness prevailing in the Lond. So. *It would seem therefore as if the returns of the Highland So. had not allowed for the time lost by desertion, but that they counted their members from the commencement of each year.* Now, the desertion appears very great in those early periods of life, when, partly from thoughtlessness, partly from roving about in quest of work, the members of Benefit Sos. forsake their Clubs. But the case is altered when they are so old as to have an immediate prospect of participating in the fund. *For that reason the Rep. of the Highland So. may give the sickness correctly above 50, but not below that age.*

Age of the Member on admission.	Value of the Sick Allowance of 10s. a Week.	Value of the Pension of 1s. a day commencing at age 65.	Value of a sum of £15 payable at the death of each Member.	Total Value of the 3 Benefits.	Equivalent Yearly or Monthly Prem.—the first payable in advance—but ceasing at 65.			Value of one uniform Contribution of 3s. a year from each and every Member till 65—the first 3s. in advance.	Surplus in favour of the Fund from young Members.	Deficiency or Fine to be made good by older Members from whom the common Contribution would be insufficient.
					Yearly Prem.	Monthly Prem.				
	£	£	£	£	£	s.	d.	£	£	£ s. d.
15	10'091	8'950	4'699	23'741	1'289	111	2	27'719	3 19 6	.....
16	10'086	9'356	4'809	24'252	1'330	114	2	27'408	3 3 1	.....
17	10'081	9'797	4'917	24'795	1'374	118	2	27'128	2 6 8	.....
18	10'075	10'287	5'021	25'384	1'418	122	2	26'910	1 10 6	.....
19	10'070	10'822	5'025	25'918	1'458	125	2	26'733	0 16 4	.....
20	10'065	11'397	5'010	26'471	1'498	129	2	26'573	0 2 0	.....
21	10'118	12'008	5'101	27'227	1'547	133	2	26'416	.....	0 16 3
22	10'171	12'663	5'126	27'961	1'596	137	2	26'277	.....	1 13 8
23	10'223	13'368	5'151	28'742	1'650	142	2	26'155	.....	2 11 9
24	10'276	14'111	5'184	29'571	1'709	147	2	26'026	.....	3 11 0
25	10'329	14'887	5'227	30'443	1'772	153	3	25'875	.....	4 11 4
26	10'373	15'692	5'283	31'348	1'839	159	3	25'693	.....	5 11 1
27	10'446	16'538	5'347	32'302	1'912	165	3	25'497	.....	6 16 1
28	10'460	17'426	5'419	33'306	1'990	172	3	25'286	.....	8 0 5
29	10'504	18'343	5'498	34'445	2'073	179	3	25'037	.....	9 6 2
30	10'547	19'299	5'578	35'424	2'162	187	3	24'763	.....	10 11 3
31	10'713	20'307	5'662	36'681	2'265	196	3	24'478	.....	12 4 0
32	10'878	21'376	5'754	38'007	2'372	205	4	24'188	.....	13 16 5
33	11'043	22'502	5'857	39'402	2'499	216	4	23'883	.....	15 10 5
34	11'209	23'660	5'961	40'830	2'636	227	4	23'536	.....	17 5 11
35	11'374	24'858	6'045	42'278	2'769	240	4	23'151	.....	19 2 6
36	11'208	26'122	6'157	43'487	2'901	251	5	22'752	.....	20 14 8
37	11'041	27'501	6'259	44'802	3'045	264	5	22'374	.....	22 8 6
38	10'875	28'995	6'366	46'236	3'201	278	5	22'008	.....	24 4 7
39	10'709	30'588	6'474	47'771	3'370	293	5	21'634	.....	26 2 9
40	10'542	32'258	6'586	49'387	3'551	309	6	21'234	.....	28 3 0
41	10'417	34'002	6'700	51'119	3'748	326	6	20'801	.....	30 6 3
42	10'291	35'831	6'818	52'940	3'967	346	6	20'339	.....	32 12 0
43	10'165	37'763	6'939	54'867	4'214	368	7	19'855	.....	35 3 0
44	10'040	39'826	7'065	56'931	4'496	392	7	19'357	.....	37 11 6
45	9'914	41'978	7'197	59'090	4'815	421	8	18'223	.....	40 5 2

[This T. was transferred from the preceding page for typographical reasons. The reader must turn back to that page for the explanations which belong to the T.] See 1853.

The following is a comparison between the sickness rate shown by Mr. Becher's T. (1823) and Mr. Finlaison's T. (1829):

Period of Life from the age of	Days of Sickness in each Year, according to		Weeks of Sickness in each Year, according to	
	Mr. Becher.	Mr. Finlaison.	Mr. Becher.	Mr. Finlaison.
20 to 25	6'3	7'	'9	1'
25 — 30	6'3	7'	'9	1'
30 — 35	7'7	7'	1'1	1'
35 — 40	7'7	8'5	1'1	1'214
40 — 45	9'1	9'5	1'3	1'357
45 — 50	9'1	9'5	1'3	1'357
50 — 55	14'0	10'0	2'0	1'428
	60'2	58'5	8'6	8'356

The sickness experienced ann. by 35 persons—being 1 at every age from 20 to 55—according to Mr. Becher was 43'000 weeks
By Mr. Finlaison 41'780 „

Difference 1'220

This difference, being divided by 35, gives 5 hours 15 minutes and 17 seconds more sickness to each person in the year.

The difference in money values for the different classes of benefits between the Rev. J. T. Becher's calculations (1823) and those of Mr. Finlaison (1829) are shown in the following Table:

	Age next Birthday.	Ins. of 2s. Weekly Pay in Sickness.		Ins. of 1s. Weekly Pay after 65.		Ins. of £2 on Death.		Total.	
		Contributions.		Contributions.		Contributions.		Contributions.	
		Single.	Ann.	Single.	Ann.	Single.	Ann.	Single.	Ann.
Mr. Becher ...	25	£ 2 2 6	s. 2 6	£ 1 17 1	s. 2 3	£ 0 16 5	s. 1 3	£ 4 16 0	s. 6 0
Mr. Finlaison	25	2 1 4½	2 4½	2 0 3½	2 4	0 13 10	0 9½	4 15 3	5 5½
Mr. Becher ...	35	2 6 1	3 3	3 1 6	4 6	0 18 7	1 6	6 6 2	9 3
Mr. Finlaison	35	2 4 10	2 10½	3 7 7½	4 4½	0 15 10½	1 0½	6 8 3½	8 3
Mr. Becher ...	46	2 9 9	4 6	5 12 8	10 6	1 1 6	2 3	9 3 11	17 3
Mr. Finlaison	46	1 19 7½	3 2½	5 19 11	9 9½	0 19 2½	1 6½	8 18 9	14 6½

The Rev. J. T. Becher pub. this year the 5th ed. of his *Constitution of F. Sos.*, etc., wherein he says (p. 102): "The laborious attention with which the Select Committee of the Ho. of Commons have recently endeavoured to investigate the Law of Sickness appears to claim a detailed exposition of the principles and data by which I have been governed in defining the quantity of sickness prevailing among the members of F. Sos." He then proceeds to announce that, in prosecuting his inquiries upon this subject, he had "collected Returns from numerous F. Sos., from hospitals, and from several parishes—since it is very customary in *Nottinghamshire*, and in the adjoining counties, to allow a surgeon a regular ann. salary for affording advice and medicines to the poor of the contracting parishes. The members thus entitled to medical relief in the parish of St. Mary in Nottingham are estimated at 9000 persons. These data have been compared with the Law of Mort., and from the results thus obtained the Law of Sickness has been deduced, which may be thus stated in abstract:"

The rate of Sickness experienced among the working classes, by an individual between the ages of 10 and 70 years, taking the periods of life from 10 to 50 decennially, and from 50 to 70 quinquennially:

It will be seen that there is a slight variation between these figures and those given in 1823.

1832.—Mr. T. R. Edmonds pub.: *Life Tables founded upon the Discovery of a Numerical Law regulating the Existence of every Human Being: illustrated by a new Theory of the Causes producing Health and Longevity*; wherein he argues that there subsists the most intimate connexion between *Sickness* and *Death*: for instance, "in any pop. between the ages of 20 and 55, if the numbers constantly sick amount to 4 p.c. on the living, then it may be safely inferred that the ann. deaths amount to 2 p.c. on the living." He adds that "*at different ages the rate of sickness increases as the rate of mort. increases.*" And further, "The expectation that it ought, is so reasonable, that Dr. Price, long ago, acted upon it in the construction of his T. of Sickness. . . . The opinion is confirmed by the Rep. of Sickness in Scot., made by the Highland So., at least with the exception of old age." He had, he said, confirmed this view by observations on an extended scale, over masses of military lives, at home and abroad. See hereon our historical art. under date 1855.

He gives T. of contributions for sick allowance (which he terms *Health Ins.*), accompanied by the following explanation and criticism:

The basis assumed by my T. of Sickness is intermediate between that reported by the Highland So. and that said to be assumed by Dr. Price. But the basis *really* assumed by Dr. Price in his T. differs from mine in a very insignificant degree. Dr. Price appears to have fallen into the error of confounding an assu. for a long term with an assu. for a short term. He seems to have assumed, that the weekly payment for Health Ins. for 30 years does not differ from a weekly payment for a term of 10 years. It is, however, not improbable that the error was known at the time—that Dr. Price preferred making an incorrect statement, to the exposing of difficulties of calculation, which neither he nor any other person has succeeded in surmounting. By the help of the new discovery, I have been able to overcome the difficulty in one case only; and, most fortunately, this case is the only one of great practical importance.

Ages.	Weeks of Sickness.	Proportion of Individuals permanently Sick.
From 10 to 20	7	1 in 74'2857
" 20 " 30	9	1 " 57'7777
" 30 " 40	11	1 " 47'2727
" 40 " 50	13	1 " 40'
" 50 " 55	20	1 " 26'
" 55 " 60	30	1 " 17'333
" 60 " 65	45	1 " 11'5555
" 65 " 70	110	1 " 4'7272

He adds further in regard to his T. :

I would here observe, that a Life and Health Asso. [as a F. So. is] may act in such a manner as to exhibit results differing widely from any T. of Mean Mort. and Sickness; and yet there may be no reason for calling in question the assumed averages. *For I present these T. as the best standard of truth for a long space of time*, on the supposition that the management of the So. is liberal and intelligent in an average degree. By liberality I would be understood to mean, the disposition to admit rather *exceptionable* lives, provided that the inducement to seek admission has not been founded on the knowledge of this exception. *The profitable effect of a Life and Health Asso. greatly depends on the T. selected; but it is still more dependent on the general management.*

Finally, in regard to the range of the T., he remarks :

In constructing T. for provision in sickness and in old age, I have been influenced by the general principle—that all savings from the earnings of labour ought to be made before the age of 55 years; that between the ages of 55 and 65 a man should expend the labour barely sufficient for his maintenance; and that for the portion of life which may be enjoyed after the age of 65 he should subsist entirely on previous savings. According to these T., the allowance during old age commences at 65, but the weekly payments given in exchange for it cease at the age of 55. The Health Assu. T. is confined to periods terminating at the age of 55; at least it is so when the price paid is an even weekly payment, continued from the age of admission to the end of the term of ins. But I have given a second T., wherein the contributions are variable and increasing—which shows the value of Health Ins. for the term of 1 year, at all ages below 70. By the help of this 2d T. the even weekly payment for Health Ins., commencing at 55 and terminating at 65 years of age, may be obtained sufficiently near for practical purposes.

Here are the T.

Tables A 32 and 33. *Weekly payments equivalent to a benefit during sickness of 100 pence per week when the ins. is for the term of 1 year, and when it is for the term comprehended between the age of admission and the age of 55 years.* Rate of int. 3 p.c.

A 32, INS. FOR ONE YEAR.

Between Ages	Weekly Payment in Pence.	Between Ages.	Weekly Payment in Pence.	Between Ages.	Weekly Payment in Pence.
20-21	1'4997	38-39	2'5492	56-57	4'7621
21-22	1'5445	39-40	2'6254	57-58	5'1416
22-23	1'5907	40-41	2'7040	58-59	5'5514
23-24	1'6383	41-42	2'7848	59-60	5'9938
24-25	1'6873	42-43	2'8681	60-61	6'4714
25-26	1'7378	43-44	2'9539	61-62	6'9871
26-27	1'7898	44-45	3'0423	62-63	7'5440
27-28	1'8433	45-46	3'1333	63-64	8'1452
28-29	1'8985	46-47	3'2270	64-65	8'7943
29-30	1'9552	47-48	3'3235	65-66	9'4951
30-31	2'0137	48-49	3'4229	66-67	10'2518
31-32	2'0740	49-50	3'5253	67-68	11'0688
32-33	2'1360	50-51	3'6308	68-69	11'9509
33-34	2'1999	51-52	3'7394	69-70	12'9033
34-35	2'2657	52-53	3'8512	70-71	13'9316
35-36	2'3335	53-54	3'9664		
36-37	2'4033	54-55	4'0851		
37-38	2'4751	55-56	4'2106		

A 33, INS. UNTIL AGED 55.

Age.	Weekly Payment in Pence.	Age.	Weekly Payment in Pence.
20	2'0702	38	3'1481
21	2'3134	39	3'2029
22	2'3572	40	3'2583
23	2'4017	41	3'3143
24	2'4469	42	3'3708
25	2'4927	43	3'4279
26	2'5392	44	3'4854
27	2'5864	45	3'5435
28	2'6342	46	3'6021
29	2'6827	47	3'6611
30	2'7318	48	3'7205
31	2'7816	49	3'7803
32	2'8321	50	3'8405
33	2'8832	51	3'9010
34	2'9349	52	3'9619
35	2'9873	53	4'0229
36	3'0403	54	4'0842
37	3'0939		

Table A 34. Maintenance in Old Age. Benefit 100 pence p. week after the age of 65. Weekly payments to cease at age of 55.

Age.	Weekly Payment in Pence.	Single Payment in Pounds.	Age.	Weekly Payment in Pence.	Single Payment in Pounds.
20	5'2352	21'2206	28	8'3021	28'9082
21	5'5259	22'0366	29	8'8431	30'0853
22	5'8380	22'8897	30	9'4336	31'3200
23	6'1737	23'7817	35	13'3987	38'4873
24	6'5354	24'7150	40	20'3183	47'7346
25	6'9257	25'6917	45	34'6910	59'8418
26	7'3478	26'7144	50	79'0212	75'9579
27	7'8052	27'7856	55	—	97'8125

Table A 35. Benefit 100 shillings on the day of death. Equivalents in quarterly and in single present payments.

Age.	Quarterly Payment in Pence.	Single Payment in Shillings.
20	5'2347	37'1211
25	5'9530	40'1687
30	6'8038	43'4170
35	7'8295	46'8932
40	9'0966	50'6391
45	10'7154	54'7195
50	12'8846	59'2352
55	16'0023	64'3456
60	20'4397	69'7441

It is seen that Mr. Edmonds arrived at the same conclusion as Dr. Price—that at different ages the rate of sickness increases as the rate of mort.

1835.—Mr. Charles Ansell pub. his *Treatise on F. Sos.*, already reviewed in our historical art. on F. Sos. He therein gives some important T., deduced from returns obtained by the So. for the Diffusion of Useful Knowledge, which it is our present purpose to review. The author says :

No successful attempts appear to have been made to collect a sufficient number of facts on which to place a reasonable reliance, as to the occurrence of sickness and mort. among the labouring classes of Eng.—that is, among those classes by whom F. Sos. are usually formed—until the So. under whose superintendence this treatise is pub. caused schedules to be printed. . . . Sets of these schedules were sent to F. Sos. in most of the counties of Eng., and from almost every part of the country returns of them filled up were obtained. . . .

Many of the returns so obtained were defective—some not stating the ages of the members, and others only returning one or two out of the three schedules sent. A sufficient number were, however, received to show the progress of about 5000 members of different Sos. taken indiscriminately from all parts of Eng. while passing through in the aggregate 24,323 years of life, principally between the ages 20 and 70. The period over which the observations extended was 5 years from Jan. 1823 to Jan. 1828. It was thought that that time would be sufficient to obtain a fair average of “what have been called external circumstances ; and it was moreover deemed desirable not to ask the F. Sos. to whom the schedules were sent to make returns for a time far removed from that in which they might be making them ; in the belief that the accounts or records of the Sos. might not enable them to go far back with the same hope of accuracy that a reference to more recent accounts would warrant.” It was also believed that if such returns had been asked from any one So. as would have required an extraordinary share of labour to finish, the practical effect of doing so would have been that in many cases no returns at all would have been got.

The mode of dealing with the available returns was as follows : cols. were ruled, and headed with the numbers corresponding to each year of life, from the age of 17 to age 95,—the former being the youngest and the latter the oldest life in the returns—and under each age the col. was subdivided into 3 parts. The first subdivision to contain a mark signifying that an individual who might, at the commencement of any year, be of the age at the top of the col., came under obs. : the second subdivision to contain the number of weeks or days of sickness which that individual had experienced in the year following : and the third to contain a mark which should denote the death of the individual indicated in the 1st col., if it occurred in that year.

If the individual experienced no sickness in the year following the age under which he was classed, the mark put to signify his regis. at that age remained without note against it ; and if he lived to the end of the year, the third column was also left blank. The sums of these columns would therefore give : 1. The total number of persons entered at each age of life. 2. The total number of weeks and days of sickness experienced among them while passing through the following year. 3. The number of them who had died.

From a careful examination of the ages assigned to the members in those returns in which the dates of birth were given, it appeared to be the almost invariable practice of the parties who filled up the schedules, to state the age of the member as *on the last birthday*. In arranging the returns it was therefore assumed that such practice had been uniformly adhered to. And it was therefore further assumed that the aggregate of those persons stated to be of two following ages might safely be considered as on an average to be of the higher of those two ages. This might not be precisely true : since (says Mr. Ansell) the numbers of any two following ages are not equal ; but that circumstance would have no sensible effect on the deductions eventually made from the data.

The sum of all the sickness experienced among those of any two consecutive ages would, on the above assumption, represent the sickness experienced in one year among the number of persons assumed to be living at the higher of the two ages : and the sum of the numbers dying, in the years following any 2 consecutive ages, would properly indicate the number of deaths which took place in the following year among the same number of persons.

Consistently with what has just been stated, the one member said to be 17 and the 3 members said to be of age 18, have been considered to be 4 members of the full age of 18 ; and among those 4 members 2 weeks of sickness was experienced the year following. The 3 members stated to be of the age 18 and the 42 members stated to be of the age 19 have been considered as 45 of the age 19 ; among whom 25 weeks 5 days of sickness was experienced in the year following. The several ages observed upon were then combined, 2 and 2 in the manner pointed out. . . .

As there is considerable irregularity in the mean quantity of sickness, and in the rate of mort. from year to year, . . . it was thought well again to combine the obs. in each 5 successive years—making the aggregate of the numbers of persons at any 5 consecutive years to indicate the number of persons of the mean age ; and the aggregate of the sickness and of the mort. at those 5 ages, to represent the quantity of sickness and number of deaths occurring among the aggregate number of persons of the mean age.

This process was carried through for all the ages, and finally there resulted the following T.

ANSELL's Table of Sickness and Mortality—Friendly Sos.

[Not finally adjusted.]

Age.	Mean quantity of Sickness exp. by a Person in the Year following each Age, expressed in Weeks and decimals of a Week.	Number out of which one Person would Die.	Age.	Mean quantity of Sickness exp. by a Person in the Year following each Age, expressed in Weeks and decimals of a Week.	Number out of which one Person would Die.	Age.	Mean quantity of Sickness exp. by a Person in the Year following each Age, expressed in Weeks and decimals of a Week.	Number out of which one Person would Die.
20	740	192.20	45	1.327	51.87	70	11.685	15.46
21	793	189.22	46	1.375	52.09	71	12.924	11.62
22	833	147.22	47	1.456	49.64	72	12.177	9.60
23	844	127.83	48	1.548	46.90	73	11.741	8.22
24	813	126.53	49	1.617	42.57	74	12.358	7.50
25	762	122.94	50	1.726	40.41	75	14.128	8.50
26	738	109.56	51	1.837	42.78	76	18.856	10.67
27	766	101.13	52	1.897	43.67	77	25.121	13.50
28	768	92.52	53	2.035	43.06	78	28.363	22.33
29	775	87.65	54	2.268	41.70	79	27.126	26.50
30	832	85.96	55	2.443	36.82	80	21.621	14.67
31	885	87.22	56	2.437	32.77	81	14.333	12.00
32	887	87.50	57	2.659	27.51	82	6.586	14.50
33	902	83.23	58	2.748	25.01	83	4.857	14.00
34	934	74.85	59	2.859	25.38	84	9.645	10.33
35	964	67.29	60	3.154	27.18	85	16.516	10.33
36	1.015	60.19	61	3.695	25.09	86	25.032	15.50
37	1.069	55.93	62	4.266	22.56	87	32.606	16.50
38	1.118	57.49	63	4.785	20.92	88	37.871	15.50
39	1.130	61.78	64	5.172	19.10	89	42.615	26.00
40	1.160	60.08	65	5.498	17.26	90	42.727	.....
41	1.146	59.64	66	6.056	17.60	91	37.556	.....
42	1.161	60.13	67	7.121	18.17	92	26.000	.....
43	1.195	59.91	68	8.567	18.27	93	.....	.....
44	1.269	52.50	69	10.332	18.04	.....	.....	.....

The data before referred to furnished the means of determining the prob. of a person living one year, for every year of age embraced in the T.; and therefore constructing a T. of Mort. in its usual form. Hence the following T. was deduced.

MORTALITY T. based on Friendly Sos. Experience.—ANSELL.

[Not finally adjusted.]

Age.	No. Living at the Beginning of the Year.	No. Dying in the Year.	Age.	No. Living at the Beginning of the Year.	No. Dying in the Year.	Age.	No. Living at the Beginning of the Year.	No. Dying in the Year.
20	5132	27	44	3860	68	68	1761	27
21	5105	27	45	3792	72	69	1664	91
22	5078	34	46	3720	72	70	1573	87
23	5044	39	47	3648	70	71	1486	96
24	5005	40	48	3578	72	72	1390	120
25	4965	39	49	3506	75	73	1270	132
26	4926	40	50	3431	81	74	1138	139
27	4886	45	51	3350	83	75	999	133
28	4841	48	52	3267	85	76	866	102
29	4793	52	53	3182	73	77	764	72
30	4741	54	54	3109	72	78	692	51
31	4687	54	55	3037	73	79	641	29
32	4633	53	56	2964	80	80	612	23
33	4580	52	57	2884	88	81	589	40
34	4528	54	58	2796	102	82	549	46
35	4474	60	59	2694	108	83	503	35
36	4414	66	60	2586	102	84	468	33
37	4348	72	61	2484	91	85	435	42
38	4276	76	62	2393	95	86	393	38
39	4200	73	63	2298	102	87	355	23
40	4127	67	64	2196	105	88	332	20
41	4060	68	65	2091	109	89	312	20
42	3992	67	66	1982	115	90	292	11
43	3925	65	67	1867	106			

Mr. Ansell says by way of further elucidation and confirmation of the general accuracy of the preceding T.:

Notwithstanding the large number of individuals from among whom the foregoing experience has been procured, whose progress in the whole, through 24,323 years of age, has been shown, . . . a series has not been obtained minutely uniform; but it is nevertheless sufficiently uniform to warrant very considerable confidence being placed in the results deduced from it. It will be perceived . . . that with slight fluctuations, both the rate of sickness and the rate of mort. increase pretty regularly from 20 to age 70. This regularity in the series *would of itself be a forcible reason for placing reliance on the correctness of the data from which it is deduced*, if there existed nothing with which it could be compared, in order to test its accuracy; but since the mort. and sickness are combined in the same returns, and there does exist means of judging of the correctness of the recorded mort., by comparing it with similar facts given by several writers of eminence, we shall, *by estab. the accuracy of the returns so far as the mort. is concerned, be warranted in claiming for them an equal share of credit for what regards the quantity of sickness indicated therein.*

Notwithstanding, however, what is here said, it will be very desirable that future collections should be made of the experience of F. Sos., as to the quantity of sickness occurring among the members, either for the purpose of verifying or of correcting the result of this first collection in Eng. of facts similar to those alluded to.

A comparison is then substituted between the *Northampton, Swedish, Chester, Carlisle, Gov. Annuitants* Mort. T., and this new T.; and hereon Mr. Ansell says, "Although the latter does not correspond very closely with any one of the others, it does not, at the ages between 20 and 70 inclusive, depart from either T. *more than might be anticipated from a knowledge of the fact that nearly all the members of F. Sos. belong to one class of the community*; while all classes are mixed in the communities among whom the obs. were made that served for the bases of most of the other T."

The results of the several T. named are next reduced into *curves*, whereon Mr. Ansell says:

While the general outline of the curve, representing the mort. among the members of F. Sos., was such as, with reference to the curves representing the other T., seemed to offer satisfactory evidence that much reliance might be placed on its accuracy *in the main*, there were yet some apparent irregularities in its course, which will prob. appear in similar cases, if the number of things observed upon be not exceedingly great; it was therefore thought well to describe a more uniform curve through the uneven one, . . . but with this restriction, that the mort. represented by the former, between certain ages up to age 70 should, in the aggregate, be the same, or nearly the same, as the aggregate of that indicated by the latter. This was accordingly done; and . . . the following T. is made to agree with it.

Here is the newly graduated T.:

T. showing the number out of which 1 person would die at each age, deduced for ages over 19 from the experience of the English F. Sos.; for ages up to 70 as explained in the text.

Age.	One Dying out of	Age.	One Dying out of	Age.	One Dying out of	Age.	One Dying out of	Age.	One Dying out of
13	165·6	25	105·7	37	68·8	49	44·8	61	25·3
14	158·3	26	102·2	38	66·3	50	42·9	62	24·1
15	151·7	27	98·8	39	63·9	51	41·1	63	22·9
16	145·6	28	95·4	40	61·6	52	39·3	64	21·7
17	140·0	29	92·1	41	59·4	53	37·6	65	20·6
18	134·8	30	88·9	42	57·3	54	35·9	66	19·5
19	129·9	31	85·8	43	55·3	55	34·1	67	18·4
20	125·3	32	82·8	44	53·4	56	32·4	68	17·3
21	121·0	33	79·8	45	51·6	57	30·8	69	16·3
22	116·9	34	76·9	46	49·9	58	29·3	70	15·4
23	113·0	35	74·1	47	48·3	59	27·9		
24	109·3	36	71·4	48	46·6	60	26·6		

Mr. Ansell explains that his observations, before their last adjustment, did not furnish any data for constructing a Mort. T. for ages under 20; "but as it was desirable for some of the purposes of F. Sos. that the T. should embrace earlier ages, the curve was extended from age 20 upwards till it met, at age 13, the line indicating the *Chester* Mort. T.; and in so extending it, regard was had to keeping it in that course of which the order of second differences should be uniform, or very nearly so, with the second differences of the yearly rate of mort. represented by the adjusted curve for ages above 20."

At age 70 the F. Sos. mort. agreed, almost fractionally, with that indicated by the *Northampton* T., "and the course of the curve corresponding with the latter appeared to run so evenly into the adjusted curve of the F. Sos. experience, that no hesitation was felt in adopting the mort. of the *Northampton* T. for ages over 70. *It was necessary to adopt other data for the mort. after this age, for the reason that that obtained from the returns of the F. Sos. then became . . . so abruptly irregular as to raise a presumption that some other cause must have given rise to it than so sudden a change in the actual rate of mort.* It will be hereafter seen that the same irregularity after the age 70 is, by the data now pub., shown to prevail in regard to the *sickness* as in the rate of mort." He then proceeds:

It is extremely prob. that the irregularity alluded to arises in the following manner: It is very usual

for members of F. Sos. to become entitled to a fixed superannuation allowance, *without reference to sickness or health*, from the time they attain the age of 70; and consequently there would be no motive for recording the times at which they might experience sickness after that age, even if it were known to the So. that the members were ill. In many Sos. in which the rules do not provide for superannuation allowances to the members after a fixed age, such an allowance is made whenever the members become incapable, from infirmity, of following their ordinary avocations; and it may be presumed that a large majority of persons, entitled to a superannuation allowance, under such circumstances would have a good claim to it at an age not far removed from 70: this would prevent any sickness occurring to them appearing in the records of the inst. to which they severally belonged. In either of the supposed cases the persons would be included in the returns furnished by the Sos. under schedule A as members; although it would not be stated that they had been sick after the dates of their superannuation: for the reason that from that time, sickness would not cause them to receive add. allowances. A practice has moreover occasionally prevailed, arising most prob. from the too frequent poverty of F. Sos., of offering to superannuated members a gross sum to induce them to retire, and exonerate the inst. from all further claims upon it—a temptation to which the monetary wants of the members, in too many instances, induce them to yield, and so sacrifice their real interests. This of course exempts the So. from payment of the allowance at the member's death: by which means the deaths of more aged members have never appeared in the Sos. books. And as it is not universal, in the older Sos., to guarantee a sum at death at all, the two causes just alluded to will sufficiently account for the apparent decrease in the mort. after age 70, as shown in the returns . . . of which we are now treating.

Some further comparisons of this Mort. T. with the results of the mean of the 4 T.—*Swedish Male, Chester Male, Carlisle and Gov. Annuitant* (Males)—are given; and finally Mr. Ansell says:

From all the foregoing considerations the new T. [as finally adjusted] is thought to represent the rate of mort. as it prevails among the labouring classes in Eng. more nearly than any one that has heretofore been pub.; and it will therefore be very confidently adopted in the calculations given in a subsequent part of this work, which are intended to be applied for purposes having especial reference to the labouring classes of the community.

Mr. Ansell himself is careful to point out that the rates he had deduced could not in the nature of things be applied to F. Sos. indiscriminately:

It must not, however, be lost sight of, that there may be particular circumstances in which it would not be prudent to depend upon the rates of contribution given in the T. here alluded to. In very large and crowded manufacturing towns, such as Manchester for instance, there is reason to fear that the contributions for an allowance in sickness, and for a payment at death, ought to be much greater than those given in the T. There are certain occupations, too, which are notoriously unhealthy, such as some branches of needle-making, mining operations, and several others. If F. Sos. should be formed by men following such occupations, the contributions to be required from them ought very far to exceed those which men engaged in ordinary employments should pay. In the case of Sos. formed in large manufacturing towns, there is indeed one circumstance which in some measure compensates for the presumed greater quantity of sickness and mort.: it is the fact of there being a much greater number of members who desert the F. Sos., and forfeit their previous contributions, than desert Sos. formed in rural districts, where the pop. is less migratory, and where employment is not so liable to sudden fluctuation as in the former cases: so that even should no add. be made to the given rates of contribution, evil is less likely to arise than would prob. follow a want of due exertion in fixing contributions for those whose avocations are injurious to health.

We do not notice that Mr. Ansell states anywhere in his book the actual number of members under obs. We have elsewhere seen it stated that the number was about 5000; and we have so adopted this number in the preceding review.

The following are the finally adjusted T. of Mr. Ansell alike for *Sickness* and *Mort.*—the preceding T. and explanations being in our judgment necessary for a complete understanding of the mode of treatment employed.

SICKNESS.—For the same reason that a more even curve had been adopted in regard to the mort. as already explained, a more uniform curve was also drawn through the line corresponding to the mean ann. *sickness* expressed in the same T.: “in doing which care was taken that the total quantity of sickness indicated by the uniform or adjusted curve, as occurring between the ages 20 and 70 both inclusive, should agree *exactly* with the total quantity, within the limits of those ages, shown by the T. last mentioned: being in either case an aggregate of 124·062 weeks—so that the only change which has been made by the adjustment is a slight variation in the distribution of sickness.

T. showing the quantity of sickness experienced by an individual in the year following each age, expressed in weeks and decimal parts of weeks [finally adjusted].

Age.	Weeks' Sickness.	Age.	Weeks' Sickness.	Age.	Weeks' Sickness.	Age.	Weeks' Sickness.	Age.	Weeks' Sickness.
20	·776	31	·876	41	1·151	51	1·791	61	3·611
21	·780	32	·893	42	1·195	52	1·890	62	3·991
22	·785	33	·912	43	1·243	53	1·999	63	4·448
23	·791	34	·933	44	1·295	54	2·120	64	5·001
24	·798	35	·956	45	1·351	55	2·256	65	5·672
25	·806	36	·981	46	1·411	56	2·410	66	6·486
26	·815	37	1·009	47	1·475	57	2·586	67	7·471
27	·825	38	1·040	48	1·544	58	2·788	68	8·659
28	·836	39	1·074	49	1·619	59	3·021	69	10·086
29	·848	40	1·111	50	1·701	60	3·292	70	11·793
30	·861								

MORTALITY.—The following is the Mort. T. deduced as explained in the text :
Mort. of English Friendly Sos., ANSELL [finally adjusted].

Age.	Living.	Dying.	Age.	Living.	Dying.	Age.	Living.	Dying.	Age.	Living.	Dying.
13	8669	52	34	7168	93	55	4763	140	76	1504	154
14	8617	54	35	7075	95	56	4623	143	77	1350	146
15	8563	56	36	6980	98	57	4480	145	78	1204	136
16	8507	58	37	6882	100	58	4335	148	79	1068	130
17	8449	60	38	6782	102	59	4187	150	80	938	126
18	8389	62	39	6680	105	60	4037	152	81	812	120
19	8327	64	40	6575	107	61	3885	153	82	692	114
20	8263	66	41	6468	109	62	3732	155	83	578	110
21	8197	68	42	6359	111	63	3577	156	84	468	96
22	8129	70	43	6248	113	64	3421	158	85	372	82
23	8059	71	44	6135	115	65	3263	158	86	290	68
24	7988	73	45	6020	117	66	3105	159	87	222	56
25	7915	75	46	5903	118	67	2946	160	88	166	42
26	7840	77	47	5785	120	68	2786	161	89	124	32
27	7763	79	48	5665	122	69	2625	161	90	92	24
28	7684	81	49	5543	124	70	2464	160	91	68	20
29	7603	83	50	5419	126	71	2304	160	92	48	16
30	7520	85	51	5293	129	72	2144	160	93	32	14
31	7435	87	52	5164	131	73	1984	160	94	18	10
32	7348	89	53	5033	134	74	1824	160	95	8	6
33	7259	91	54	4899	136	75	1664	160	96	2	2

Mr. Ansell's T. were, soon after their pub., introduced into the Book of *Gov. Instructions* (constituting the 3rd set of T. therein). The T. were orig. computed at $3\frac{1}{2}$ p.c. int. He here added 15 p.c. for death payment.

In a later set of his money values he added 10 p.c. only.

The following comparisons of the results of this T. with some of those which preceded it are interesting.

Sickness.—The following figures show the mean ann. sickness in the English Sos. as against the Scotch Sos. (*Highland T.*) at the ages specified, viz. for each week of sickness in the Scotch Sos. there was in the English Sos.

Age.	Weeks' Sickness.	Age.	Weeks' Sickness.	Age.	Weeks' Sickness.
21	1'37913	40	1'53034	60	1'34442
25	1'30256	45	1'37942	65	1'24955
30	1'33977	50	1'28618	70	1'09195
35	1'42815	55	1'34157		

Mortality.—This being the first Mort. T. deduced from the experience of F. Sos., there is at present no other T. with which it can be compared. (See 1845.)

Annuities [Superannuation].—The value in a single contribution of a life annu. of £1 after having attained the ages of 60, 65, and 70 years—at 4 p.c. int.:

Age.	MR. BECHER.			MR. ANSELL.		
	After 60.	After 65.	After 70.	After 60.	After 65.	After 70.
13	5273	2979	1515	6719	3803	1933
20	7472	4221	2147	9279	5251	2670
25	9804	5538	2816	11786	6670	3391
30	12948	7315	3718	15089	8539	4342
35	17228	9733	4951	19510	11041	5614
40	23120	13064	6643	25543	14455	7350
45	31485	17791	9047	33939	19206	9765
50	43549	24612	12511	45863	25954	13197
55	61839	34943	17766	63495	35933	18270

Various criticisms have been offered upon this T. which it is convenient to notice here.

Mr. Neison, comparing the results of these T. with his own pub. ten years later, says : " It is difficult to account for the difference between his [Mr. Ansell's] T. and the present results, unless it be considered that the imperfect manner in which the affairs of F. Sos. at that period were managed, did not allow of so accurate information being then obtained as now, when required by Act of Parl. to make quinquennial returns. . . . It is not improbable that the difference of the two classes of results may be partially

accounted for by the smallness of the numbers over which his obs. extended, as in the aggregate they amounted to 24,323 years of life only, or about 5000 persons for a period of five years. If this fact is considered, and at the same time the irregularities, which peculiarity of employment, and other circumstances have been shown to produce, it will not be difficult to account for the discrepancy." But he adds: "It is not believed that the mere fact of small numbers would of itself be sufficient to account for the difference, without at the same time a peculiarity in the combination of the employments of the persons composing the members; for not the least remarkable feature which has appeared in the present inquiry [1845] is the uniformity of the results as to sickness, with even smaller numbers than those included in Mr. Ansell's statement, when all the facts recorded were under similar circumstances as to locality and employment."—*Vital Statistics*, 1845, p. 97.

This collection was arranged by Mr. Ansell; but notwithstanding the known talents of that gentleman, the comparatively small experience it contains prevents one regarding it in any other light than as a step in the right direction.—*Tomkins*, 1853.

The theory adopted by Mr. Charles Ansell in the inquiries set on foot by him about the year 1828, at the instance of the So. for the Diffusion of Useful Knowledge, does not, to a satisfactory extent, tend to the distinction of F. So. "Sickness" from Medical Sickness, and probably this gave rise to the opinion expressed by him twenty years later, in 1848.—*Scratchley*.

In a new ed. of the Book of Gov. "Instructions" for the estab. of F. Sos. pub. this year, a T. of sickness experience is given by Mr. John Finlaison which differs from that which he had given in 1829, as shown in the annexed T.

In this book of "Instructions" was contained 3 sets of T.
1. Those of Mr. Finlaison. 2. Those of Mr. Griffith Davies.
3. Those by Mr. Ansell, pub. this year.

Regarding Mr. Davies' T. it is stated that these *had been recomputed from revised data*. "They will be found somewhat more extensive than those before inserted, and although *computed from different data*, will be found pretty nearly to agree with the corresponding T. in the former ed., except the 1st and 3rd cols. in T. IX., above the age 50, *which were incorrect in the last ed.*" From whence the new data was derived is not stated.

The data upon which Mr. Finlaison based his T. was explained by him, in his evidence before the Select Parl. Committee on F. Sos. which sat in 1849, and we follow his own words:

635. . . . In the year 1835 I set about a revision of all the physical data that were known in respect to sickness up to that time. One head of the data was most important; it is to be found in the Rep. of the Commissioners that sat on the Factories in 1835, I think; and a very able mathematician was employed during my own illness in that year to construct T. of the amount of sickness prevailing amongst different classes; first, amongst the children of the factories, as far as they could be obtained; and secondly, there was a most important obs. upon the labourers in the employment of the East India Co., who were, during the time the Co. was a mercantile body, very numerous and amply paid during sickness; so that there was not the least pretence for their pretending to be sick, or leaving their bus. by imaginary sickness. In that Rep. of the Factory Commissioners you will find these documents.

I then took them, and I took Mr. Ansell's obs., which appeared about that time, or rather sooner, and compared the whole together, so far as facts were furnished; and then it was I compared the amount of sickness with the law of mort. prevailing at each age of human life, and which is a well-known quantity; and I formed a calculation between those two, which was quite sufficient to carry me to the extremity of life; because as there was a distinct relation between the sickness prevalent at each stage of life and the mort. at each stage of life—as is very naturally to be inferred—so far the facts were deficient in respect to sickness in very advanced age. It was not to be supposed that the same calculation would still hold good; and upon that I constructed my revised T. in 1835—and these are the T. by which we give advice to the F. Sos. at this present moment.

1841.—A Committee of the *Edinburgh Compositors So.*, appointed to revise its rules, in its Rep. dated 8th Feb. this year, stated that the contributions and benefits of the So. were regulated by the data of the Highland So.; and in order to discover whether the experience of the So. had harmonized with the orig. data from which their calculations resulted, an investigation of the actual sickness experienced by the So. had been made, of which the following is an abstract:

Age.	No. of Members.	Actual Sickness in the So.		Amount of Sickness Expected by the Highland So.'s Tables.		Excess of actual Sickness.	
		Weeks.	Days.	Weeks.	Days.	Weeks.	Days.
20—30	732	979	1	417	0	562	1
30—40	580	863	5	398	1	465	4
40—50	126	191	5	129	3	62	2
50—60	11	12	2	20	4	8	2
Totals	1449	2047	1	965	2	1081	5

Age.	Finlaison.	
	1829.	1835.
15 to 20	—	0'92
20 „ 25	1'00	0'94
25 „ 30	1'00	0'97
30 „ 35	1'00	0'99
35 „ 40	1'21	1'18
40 „ 45	1'36	1'26
45 „ 50	1'36	1'15
50 „ 55	1'43	1'17
55 „ 60	1'92	1'67
60 „ 65	—	2'26

It is thus seen that the actual sickness experienced by this So. had exceeded that contemplated by the Highland So.'s T. by no less an amount than 112 p.c.

The following T. gives the amount of sickness experienced by this So., and also according to the results of various T.:

		Weeks.		Days.		Excess of Sickness in Compositors So.	
Amount of Sickness in Compositors So.		2047	1	.....	.....	—	—
Ditto	Highland So.'s T.	965	2	.....	.....	1081	5
Ditto	Ansell's T.	1357	0	.....	.....	690	1
Ditto	Neison's T. (<i>City</i> Districts)	1748	0	.....	.....	299	1
Ditto	Ditto { Printers	2033	0	.....	.....	47	1
		Colliers and Miners	2146	0	.....	—98	5 less

sickness in Compositors So. than among colliers and miners.

It will thus appear that while there was in the So. an excess of 112 p.c. above the Highland So.'s T., and also an excess of 51 p.c. above Mr. Ansell's T., there was an excess of only 17 p.c. above the results shown by Mr. Neison's T. (first pub. in 1845) for all trades in the *City* districts; and of 2 p.c. in the general class Printers (as shown by Mr. Neison), which included compositors and pressmen. But there was at the same time less sickness by nearly 5 p.c. than was shown by Mr. Neison's T. for colliers and miners. (*Vide* Neison's *V. Statistics*, 1845.) Mr. Neison indeed says:

It may seem to some that the excessive amount of sickness experienced by the Compositors So. may be accounted for by the fluctuations in small numbers; but on reference to the Rep. itself, such will not be found to be the case. The facts extend over a term of 16 years; and the results for the various periods are pretty uniform, and cannot be looked upon as the result of any accident, but must be regarded as a distinctive and proper feature of that trade to which the members of the So. belong.

In calculating T. for the guidance of such a So., it would evidently not be safe to assume the results for the gen. average of the country or a given district, as a sufficient basis to proceed upon; for, allowing such to be the case, and adopting even the present results as a standard of calculation, there would still be 17 p.c. of the sickness in the above So. unprovided for. . . .

Other Sos. in Edin. . . . have also experienced an increased amount of sickness beyond the rates of the Highland So.'s T., although the sickness in those Sos. has not equalled in amount that in the Compositors So. It is stated that the sickness in those Sos. amounted "on an average to no less than 87 p.c. more than the Highland So.'s rate." . . .

1844.—The following T. shows the actual amount of mort. and sickness experienced by the Manchester Unity of Odd Fellows during this year. It was pub. in the Rep. of the Board, issued Oct. 1855, after the data had been analyzed and corrected by Mr. Neison:

District.	Average No. of Members in 1844.	Deaths of		No. out of which		No. of Weeks' Sickness.	Average Sick- ness yearly to each Memb. expressed in Weeks.		
		Members.	Members' Wives.	One Member Died.	One Member's Wife Died				
Rural	66,208	608	434	109	153	57,795	W.	D.	H.
Town	77,070	700	554	110	139	70,435	0	6	3
City	99,848	978	662	102	151	98,687	0	6	9
Whole Unity	243,126	2286	1650	106	147	226,917	0	6	22

The average age of the members at this period was stated by the Directors to be 30. It is clear from this T. the members of the Manchester Unity were subject to a greater amount of sickness than that shown by Mr. Ansell's T.—or even than that shown by Mr. Neison's T. next to be spoken of.

Same year, Mr. W. J. Woollager, F.R.A.S., pub. his *Essay on Testing the Condition of a F. So. by Valuation*, etc.—a valuable pamph.—wherein the author says:

38. If a F. So. adopt as their guide a Law of Mort. which through the whole period of life is too favourable, there will be a reaction in 2 ways. 1. In diminishing the single prem. for a death payment. 2. In diminishing, for all kinds of benefits, the ratio between single and monthly contributions, which latter vary inversely, as the values of the temporary annu. used as divisors. These considerations, though they should induce caution, ought to have only a certain weight. . . .

He also says:

. . . There are no data for determining the value [of sickness experience] beyond 65 with any degree of confidence; and even if there were it would in general be found inexpedient for a So. to assure sick pay beyond 65, on account of the considerable add. which for assu. throughout life must be made to monthly prem.—but especially on the ground of the difficulty at the advanced period of life of distinguishing between temporary sickness and the result of natural decay.

1845.—Mr. F. G. P. Neison pub. the 1st ed. of his now well-known work *Vital Statistics*. We have given a general outline of the contents of the work in our historical art. on F. Sos. We propose here to deal with the tabular results only. The author says, tersely, in his preface: "One of the objects in view was to determine the actual liabilities of F. Sos. by the results of their own experience; but it is obvious that the

same data will satisfy other useful and practical purposes, as well as questions of a more curious and speculative character."

On p. 13—"Duration of life in various classes"—we are told :

The data to which this part of the inquiry belongs have been derived from two sources. One portion—that relating to the F. Sos. in Eng.—has been obtained through the kindness of Mr. J. Tidd Pratt; and consists of the Quinquennial Returns for 1836-40 made under the F. Sos. Act, 10 Geo. IV. c. 56, s. 34, as amended by 4 & 5 Wm. IV. c. 40, s. 6. And an inspection of the form of schedule given under that Act will show the nature and extent of the information which can be derived from this source.

It was considered that returns from the F. Sos. in *Scotland* would form a valuable contribution to V. Statis., and at the same time be interesting to compare with the results obtained from English Sos.; especially as Mr. Ansell's valuable work had given rise to many curious conjectures on the comparative amount of sickness in the two countries: the inquiry made by the Highland So. having exhibited a less degree of sickness among the Scotch Sos. than the results of Mr. Ansell's investigation showed to be prevalent in Sos. in Eng. Accordingly in 1840, a number of blank schedules were sent to nearly every parish minister in Scot., with a note requesting him to use his influence with the neighbouring F. Sos. to induce them to furnish the information required; *but the attempt to procure data in this manner proved an almost complete failure.* In 1843 another attempt was made; but on this occasion prizes were offered to those making the best and most complete returns, which had the desired effect of procuring a series of schedules filled up evidently with much care; and although very elaborate, the nicest attention seemed to be given to the minutest detail. These constitute the second source from which the data just referred to are derived.

The schedule sent out and the instructions accompanying it were very complete. The data obtained from the returned schedules were abstracted on to sheets specially prepared for the purpose. The results for each So. were kept separate; and by a further set of abstracts the results of each particular trade or employment were kept distinct from those of every other occupation. "By this arrangement a means was afforded to measure the precise amount of sickness and mort. experienced by any particular So., the ratio due to each year of life, and also how far its affairs were influenced by the particular trades and occupations of its members."

All the Sos. having been abstracted in this way, the results were afterwards combined in the following manner:—1. The Sos. belonging to the *Rural Districts*—i.e. places with a pop. under 5000—were placed in one group. 2. The Sos. belonging to *Town Districts*—i.e. towns having a pop. above 5000 and under 30,000—were placed in another group. 3. And a third group was formed from those Sos. estab. in the *great Towns or Cities*—i.e. 30,000 and upwards. [In an Appendix the Rural Districts and the Towns are enumerated in detail.] "This plan was adopted in preference to a binary arrangement, in order to prevent a purely rural district from being mixed up with some of the smaller towns, and the great city districts with the larger towns."

The results of the first group, or *Rural Districts*, were then combined as follows. The totals of a given trade were placed on one of the abstract sheets; and the totals of the same trade in a second and third So. and so forth, were placed next in order on the same sheet, until all the Sos. in the rural districts of the first county in alphabetical order were exhausted. The sums of these totals were then found, which showed the amount of *sickness and mort.* among a certain number of persons at each age and of a given trade in that county. The same trade was carried through the rural districts of every other county in the same manner; and the totals for each county being added together, showed the general result for that trade in the whole of the rural districts combined. The same trade was carried through the second group, or *Town Districts*, and also the third group, or *City Districts*, in precisely the same manner, so that an opportunity was thus afforded of viewing the comparative degree of health in the same occupation or employment in the three districts referred to. These three districts were next combined to give the general results for that trade without regard to locality. A second trade was taken up in the like manner, and carried through precisely the same steps, and so were also other trades until all were exhausted. The totals of the various trades in the *Rural Districts* were then combined, giving the general results for that district without regard to occupation, and so on with each of the other districts; and the combination of these last three gave of course the general results, without regard to either trade or locality.

All the possible combinations of those elements of the data being thus made, the next step was to exhibit the results in a convenient form, from which to make useful deductions. Tables were therefore formed, showing the total number of persons at every year of life over which the observations extended—the number of deaths among them yearly—and the amount of sickness yearly, expressed in weeks and decimals of a week. In the same T. are also given the same facts for quinquennial periods of life, also the rate of mort. p.c., and the average amount of sickness p.a. to each person.

The observations extended over upwards of 400 different trades or occupations; but for the purposes of general use, the whole results, so far as affects the mort. of the classes under investigation, were reduced in the 4 T., *without classification of trades*, and for *males only*, viz.—1. Rural Districts. 2. Towns. 3. Cities. 4. Rural Town and City Districts combined.

Mortality.—We first deal with the mort. results only, and for E. and W. The T. for *Scotland* are given separately, and later. The *sickness* results are also kept for subsequent treatment.

We now give the T. named.

1. RURAL DISTRICTS (E. & W.)—*Males.*

(Trades not Classified.)

Ages.	Living.	Dying.	Mort. p.c.	Specific Intensity.	Ages.	Living.	Dying.	Mort. p.c.	Specific Intensity.
10	100,000	230	230	434.783	56	69,171	1199	1.734	57.676
11	99,770	229	230	434.783	57	67,972	1246	1.833	54.555
12	99,541	249	250	400.000	58	66,726	1293	1.937	51.626
13	99,292	289	291	343.643	59	65,433	1339	2.046	48.876
14	99,003	349	353	283.286	60	64,094	1384	2.160	46.296
15	98,654	429	435	229.885	61	62,710	1429	2.279	43.879
16	98,225	527	537	186.212	62	61,281	1495	2.439	41.004
17	97,698	605	619	161.551	63	59,786	1578	2.640	37.879
18	97,093	660	680	147.059	64	58,208	1678	2.882	34.698
19	96,433	694	720	138.890	65	56,530	1789	3.165	31.596
20	95,739	708	739	135.318	66	54,741	1910	3.489	28.661
21	95,031	700	737	135.685	67	52,831	2028	3.839	26.048
22	94,331	692	734	136.240	68	50,803	2141	4.215	23.725
23	93,639	685	731	136.799	69	48,662	2246	4.616	21.664
24	92,954	676	727	137.552	70	46,416	2341	5.044	19.825
25	92,278	667	723	138.313	71	44,075	2423	5.498	18.188
26	91,611	659	719	139.082	72	41,652	2466	5.921	16.889
27	90,952	650	715	139.860	73	39,186	2474	6.314	15.838
28	90,302	643	712	140.449	74	36,712	2452	6.678	14.974
29	89,659	637	711	140.647	75	34,260	2402	7.012	14.261
30	89,022	633	711	140.647	76	31,858	2330	7.315	13.670
31	88,389	628	711	140.647	77	29,528	2283	7.730	12.936
32	87,761	627	714	140.056	78	27,245	2250	8.257	12.111
33	87,134	626	719	139.082	79	24,995	2223	8.894	11.243
34	86,508	628	726	137.741	80	22,772	2196	9.644	10.369
35	85,880	632	736	135.870	81	20,576	2153	10.464	9.560
36	85,248	637	747	133.869	82	18,423	2035	11.045	9.057
37	84,611	642	759	131.752	83	16,388	1866	11.387	8.779
38	83,969	648	772	129.534	84	14,522	1669	11.490	8.703
39	83,321	653	784	127.551	85	12,853	1459	11.353	8.810
40	82,668	659	797	125.470	86	11,394	1255	11.017	9.074
41	82,009	664	810	123.457	87	10,139	1127	11.115	9.001
42	81,345	674	828	120.773	88	9,012	1064	11.809	8.467
43	80,671	687	852	117.371	89	7,948	1041	13.100	7.633
44	79,984	704	880	113.636	90	6,907	1023	14.809	6.752
45	79,280	725	914	109.409	91	5,884	1018	17.314	5.777
46	78,555	749	953	104.931	92	4,866	982	20.173	4.958
47	77,806	779	1.001	99.900	93	3,884	912	23.476	4.261
48	77,027	816	1.059	94.429	94	2,972	821	27.625	3.621
49	76,211	857	1.125	88.889	95	2,151	706	32.826	3.046
50	75,354	904	1.200	83.333	96	1,445	565	39.132	2.555
51	74,450	956	1.284	77.882	97	880	386	47.046	2.125
52	73,494	1007	1.370	72.993	98	494	285	57.777	1.731
53	72,487	1057	1.458	68.587	99	209	138	66.037	1.514
54	71,430	1106	1.548	64.599	100	71	71	85.000	1.176
55	70,324	1153	1.640	60.976					

2. TOWNS (E. & W.)—*Males.*

(Trades not Classified.)

Ages.	Living.	Dying.	Mort. p.c.	Specific Intensity.	Ages.	Living.	Dying.	Mort. p.c.	Specific Intensity.
10	100,000	275	·275	363·636	56	65,638	1657	2·524	39·620
11	99,725	274	·275	363·636	57	63,981	1742	2·723	36·724
12	99,451	283	·285	350·877	58	62,239	1815	2·916	34·294
13	99,168	303	·306	326·797	59	60,424	1871	3·097	32·289
14	98,865	333	·337	296·736	60	58,553	1916	3·273	30·553
15	98,532	373	·379	263·852	61	56,637	1948	3·440	29·036
16	98,159	424	·432	231·481	62	54,689	1990	3·639	27·480
17	97,735	462	·473	211·416	63	52,699	2039	3·868	25·853
18	97,273	491	·505	198·020	64	50,660	2091	4·128	24·225
19	96,782	508	·525	190·476	65	48,569	2146	4·418	22·635
20	96,274	515	·535	186·916	66	46,423	2130	4·739	21·101
21	95,759	512	·535	186·916	67	44,293	2294	5·180	19·305
22	95,247	516	·540	185·185	68	41,999	2412	5·742	17·415
23	94,731	523	·552	181·159	69	39,587	2544	6·425	15·564
24	94,208	538	·571	175·131	70	37,043	2678	7·228	13·835
25	93,670	557	·595	168·067	71	34,365	2801	8·152	12·267
26	93,113	583	·626	159·744	72	31,564	2805	8·888	11·251
27	92,530	607	·656	152·439	73	28,759	2713	9·435	10·599
28	91,923	630	·685	145·985	74	26,046	2551	9·794	10·210
29	91,293	651	·713	140·252	75	23,495	2341	9·904	10·036
30	90,642	671	·740	135·135	76	21,154	2104	9·946	10·054
31	89,971	689	·766	130·548	77	19,050	1912	10·037	9·960
32	89,282	705	·790	126·582	78	17,138	1754	10·235	9·775
33	88,577	718	·811	123·305	79	15,384	1622	10·542	9·488
34	87,859	729	·830	120·482	80	13,762	1508	10·957	9·124
35	87,130	738	·847	118·064	81	12,254	1407	11·481	8·711
36	86,392	744	·861	116·144	82	10,847	1326	12·227	8·176
37	85,648	754	·880	113·636	83	9,521	1256	13·196	7·581
38	84,894	766	·902	110·865	84	8,265	1189	14·388	6·949
39	84,128	782	·929	107·643	85	7,076	1118	15·802	6·329
40	83,346	800	·960	104·167	86	5,958	1036	17·439	5·734
41	82,546	821	·994	100·603	87	4,922	956	19·420	5·149
42	81,725	847	1·037	96·432	88	3,966	864	21·746	4·598
43	80,878	880	1·088	91·912	89	3,102	757	24·415	4·097
44	79,998	918	1·147	87·184	90	2,345	643	27·428	3·646
45	79,080	959	1·213	82·440	91	1,702	524	30·785	3·249
46	78,121	1008	1·290	77·519	92	1,178	396	33·584	2·978
47	77,113	1056	1·369	73·046	93	782	280	35·829	2·791
48	76,057	1104	1·452	68·871	94	502	188	37·518	2·665
49	74,953	1152	1·537	65·062	95	314	123	39·287	2·545
50	73,801	1201	1·627	61·463	96	191	78	40·995	2·439
51	72,600	1248	1·719	58·174	97	113	49	43·643	2·292
52	71,352	1309	1·835	54·496	98	64	33	50·913	1·964
53	70,043	1382	1·973	50·684	99	31	16	51·307	1·948
54	68,661	1465	2·134	46·860	100	15	15	75·000	1·333
55	67,196	1558	2·318	43·141					

3. CITIES (E. & W.)—*Males.*

(Trades not Classified.)

Ages.	Living.	Dying.	Mort. p.c.	Specific Intensity.	Ages.	Living.	Dying.	Mort. p.c.	Specific Intensity.
10	100,000	396	3961	252'525	56	58,620	1371	2'3393	42'753
11	99,604	395	3961	252'525	57	57,249	1395	2'4361	41'051
12	99,209	401	4038	247'525	58	55,854	1445	2'5863	38'669
13	98,808	414	4193	238'664	59	54,409	1518	2'7896	35'842
14	98,394	435	4426	225'734	60	52,891	1611	3'0463	32'830
15	97,959	464	4736	210'971	61	51,280	1721	3'3561	29'797
16	97,495	499	5123	195'313	62	49,559	1817	3'6660	27'278
17	96,996	545	5511	181'488	63	47,742	1898	3'9759	25'151
18	96,451	569	5900	169'492	64	45,844	1965	4'2858	23'332
19	95,882	596	6212	161'031	65	43,879	2017	4'5957	21'758
20	95,286	614	6446	155'039	66	41,862	2054	4'9056	20'383
21	94,672	627	6603	151'512	67	39,808	2086	5'2402	19'084
22	94,045	637	6777	147'493	68	37,722	2112	5'5995	17'860
23	93,408	651	6967	143'472	69	35,610	2131	5'9832	16'714
24	92,757	673	7252	137'931	70	33,479	2140	6'3921	15'644
25	92,084	703	7632	131'062	71	31,339	2139	6'8255	14'652
26	91,181	739	8107	123'305	72	29,200	2131	7'2988	13'701
27	90,442	770	8509	117'509	73	27,069	2115	7'8120	12'801
28	89,672	793	8839	113'122	74	24,954	2087	8'3651	11'954
29	88,879	808	9095	110'011	75	22,867	2049	8'9582	11'163
30	88,071	817	9280	107'759	76	20,818	1997	9'5911	10'426
31	87,254	837	9591	104'275	77	18,821	1950	10'3620	9'652
32	86,417	861	9961	100'402	78	16,871	1902	11'2708	8'873
33	85,556	889	1'0389	96'246	79	14,969	1844	12'3175	8'117
34	84,667	921	1'0875	91'996	80	13,125	1772	13'5021	7'407
35	83,746	956	1'1419	87'564	81	11,353	1675	14'8247	6'748
36	82,790	979	1'1821	84'602	82	9,678	1572	16'2427	6'158
37	81,811	1005	1'2281	81'433	83	8,106	1439	17'7563	5'631
38	80,806	1035	1'2799	78'125	84	6,667	1291	19'3654	5'165
39	79,771	1067	1'3375	74'794	85	5,376	1133	21'0700	4'746
40	78,704	1103	1'4009	71'377	86	4,243	970	22'8702	4'373
41	77,601	1141	1'4700	68'027	87	3,273	812	24'7975	4'032
42	76,460	1171	1'5314	65'360	88	2,461	661	26'8519	3'724
43	75,289	1193	1'5851	63'092	89	1,800	523	29'0335	3'445
44	74,096	1209	1'6310	61'312	90	1,277	400	31'3423	3'191
45	72,887	1217	1'6692	59'916	91	877	296	33'7782	2'960
46	71,670	1218	1'6997	58'823	92	581	208	35'8437	2'790
47	70,452	1227	1'7419	57'405	93	373	140	37'5389	2'664
48	69,225	1243	1'7960	55'679	94	233	91	38'8636	2'573
49	67,982	1266	1'8619	53'706	95	142	57	39'8180	2'511
50	66,716	1294	1'9397	51'546	96	85	34	40'4020	2'475
51	65,422	1328	2'0292	49'285	97	51	22	44'1099	2'267
52	64,094	1352	2'1096	47'393	98	29	15	51'1463	1'955
53	62,742	1368	2'1808	45'851	99	14	8	51'3067	1'949
54	61,374	1377	2'2428	44'583	100	6	6	75'0000	1'333
55	59,997	1377	2'2956	43'554					

4. RURAL, TOWN AND CITY DISTRICTS (E. & W.)—*Males.*

(Trades not Classified.)

Ages.	Living.	Dying.	Mort. p.c.	Specific Intensity.	Ages.	Living.	Dying.	Mort. p.c.	Specific Intensity.
10	100,000	250	2499	400'000	56	66,509	1335	2'0074	49'825
11	99,750	249	2499	400'000	57	65,174	1383	2'1224	47'125
12	99,501	265	2667	374'532	58	63,791	1431	2'2437	44'503
13	99,236	298	3004	333'333	59	62,360	1479	2'3714	42'176
14	98,938	347	3508	284'900	60	60,881	1525	2'5054	39'920
15	98,591	412	4181	239'234	61	59,356	1570	2'6456	37'793
16	98,179	493	5022	199'203	62	57,786	1630	2'8203	35'461
17	97,686	557	5701	175'439	63	56,156	1701	3'0295	33'014
18	97,129	604	6216	160'771	64	54,455	1782	3'2730	30'553
19	96,525	634	6568	152'207	65	52,673	1871	3'5511	28'161
20	95,891	648	6758	147'929	66	50,802	1963	3'8635	25'887
21	95,243	646	6785	147'493	67	48,839	2060	4'2177	23'708
22	94,597	646	6824	146'628	68	46,779	2158	4'6135	21'673
23	93,951	646	6876	145'349	69	44,621	2254	5'0509	19'798
24	93,305	648	6942	144'092	70	42,367	2343	5'5301	18'083
25	92,657	650	7020	142'450	71	40,024	2422	6'0510	16'526
26	92,007	654	7112	140'647	72	37,602	2453	6'5246	15'326
27	91,353	659	7212	138'696	73	35,149	2443	6'9508	14'386
28	90,694	664	7320	136'612	74	32,706	2397	7'3296	13'643
29	90,030	670	7437	134'409	75	30,309	2322	7'6612	13'053
30	89,360	676	7563	132'275	76	27,987	2224	7'9455	12'586
31	88,684	683	7697	129'870	77	25,763	2148	8'3358	11'996
32	88,001	690	7837	127'551	78	23,615	2086	8'8322	11'322
33	87,311	697	7983	125'313	79	21,529	2031	9'4347	10'598
34	86,614	705	8136	122'850	80	19,498	1982	10'1433	9'862
35	85,909	713	8294	120'627	81	17,516	1919	10'9580	9'124
36	85,196	721	8458	118'203	82	15,597	1817	11'6514	8'584
37	84,475	731	8649	115'607	83	13,780	1684	12'2236	8'183
38	83,744	743	8868	112'740	84	12,096	1533	12'6744	7'893
39	83,001	756	9113	109'769	85	10,563	1374	13'0040	7'692
40	82,245	772	9386	106'496	86	9,189	1214	13'2123	7'570
41	81,473	789	9686	103'199	87	7,975	1118	14'0171	7'138
42	80,684	808	1'0018	99'001	88	6,857	1057	15'4183	6'485
43	79,876	829	1'0380	96'339	89	5,800	1010	17'4160	5'740
44	79,047	852	1'0775	92'850	90	4,790	958	20'0102	4'997
45	78,195	876	1'1200	89'286	91	3,832	889	23'2008	4'310
46	77,319	901	1'1657	85'763	92	2,943	783	26'5925	3'761
47	76,418	932	1'2192	81'967	93	2,160	644	29'8333	3'352
48	75,486	967	1'2806	78'064	94	1,516	501	33'0399	3'289
49	74,519	1006	1'3497	74'074	95	1,015	369	36'3588	2'750
50	73,513	1049	1'4267	70'077	96	646	256	39'6498	2'522
51	72,464	1095	1'5115	66'137	97	390	176	45'1555	2'215
52	71,369	1143	1'6011	62'461	98	214	113	52'9127	1'890
53	70,226	1191	1'6955	58'997	99	101	62	61'3067	1'631
54	69,035	1239	1'7947	55'710	100	39	39	75'0000	1'333
55	67,796	1287	1'8986	52'659					

On an inspection of the results in T. I (*Rural Districts*), it will be seen that the highest "specific intensity" is attained at the youngest ages in the T., and that it decreases up to age 20; from which age up to 31 it increases, and then decreases gradually till near the extreme of life.

A comparison of the "specific intensity" as given in this T. (No. 1) with the general result for the male pop. of Eng. and W. [as given under ENGLISH LIFE T. (Neison),

1845] "will show a higher intensity of life through the whole range of the T., maintaining at the same time a very remarkable parallelism." It will be seen that the specific intensity

At age 20 in E. and W. T. is as high as at 39 in T. 1 (Rural Districts).

" 30	"	"	47	"
" 40	"	"	50	"
" 50	"	"	55	"
" 60	"	"	63	"
" 70	"	"	71	"

An approximating value taking place up to about this period, after which they again diverge to near the extreme of life. Again, the pop. existing at age 10 in the E. and W. T. (Neison) is halved between ages 62-3; while in T. 1 (Rural Districts) the same result is not determined till ages 68-9—showing under this aspect a superior vitality of 6 years.

If the results in T. 2 (*Town Districts*) be now inspected, it will be seen that the specific intensity decreases in a regular series from the beginning to the extreme of the T. It will also appear that the specific intensity is higher than male life in the T. for E. and W. (Neison) up to age 52, and from that to age 76 it is less. From the latter age to the extreme of life they cross each other. The following are the ages at which the corresponding specific intensities in both T. are nearly equal:

Age 20 in E. and W. T. (Neison) corresponds with age 31 in T. No. 2 (*Town Districts*).

30	"	"	41	"
40	"	"	45	"
50	"	"	50	"
60	"	"	58	"
70	"	"	68	"
80	"	"	82	"

In T. 2 (*Town Districts*) it will be seen that half the pop. disappears between ages 64-5, while in the E. and W. T. (Neison) the same result takes place at ages 62-3.

Turning next to T. 3 (results for *City Districts*), it will be seen that the specific intensity decreases from the earliest age to the other extreme of the T., in a uniform series. In this T. it will also appear, that from the age of 10 to 33 there is a higher specific intensity than in the E. and W. T. (Neison); and from 33 to the extreme of life the specific intensity in the City Districts is less than in the male life of E. and W. (Neison). The following will show the ages corresponding to equal specific intensities in both T.:

Age 20 in E. and W. T. (Neison) corresponds nearly with age 25 in T. 3 (*City Districts*).

30	"	"	33	"
40	"	"	37	"
50	"	"	46	"
60	"	"	59	"
70	"	"	69	"
80	"	"	79	"

Half the pop. it will be seen in T. 3 (*City Districts*) has died off between the ages 61-2; while among males in E. and W. (Neison) that happened at ages 62-3—"being in this instance 1 year in favour of the T. for the general results of the country."

Taking a view of the 3 districts respectively, as given in the first three of the preceding T., as compared with the E. and W. T. (Neison), it will be seen that there is a higher specific intensity

in the *Rural Districts* (F. Sos.) up to the extreme of life than in E. and W. (Neison)

" *Town Districts* up to the age of 52 "

" *City Districts* " 33 "

From this it would appear that the lower the age of equal specific intensity, the worse the class of lives to which it refers. Another comparison of these 3 classes of results with Neison's T. for E. and W. [ENGLISH LIFE T.] will show the following series of differences for the corresponding ages of equal specific intensity:

Age.	Rural Districts.	Town Districts.	City Districts.
20	19	11	5
30	17	11	3
40	10	5	3
50	5	0	-4
60	3	-2	-1
70	1	-2	-1

Sums of the series of differences

55

23

5

"This arrangement of the differences of corresponding periods of equal specific intensity also points out a gradual approximation to lower numbers, moving from the Rural towards the City Districts." And a third illustration of the same fact will be found in comparing the periods at which the *Equation* of life is found for age 10. It is found in—

E. and W. (Neison).

Rural Districts.

Town Districts.

City Districts.

At ages 62-3

68-9

64-5

61-2

Difference

6 years.

2 years.

—1 year.

Mr. Neison remarks hereon :

As before stated, the illustrations drawn from the specific intensity must be understood to have reference to the identical periods only of life at which the comparisons are made, and not to the absolute value of life in any of the classes. It will, however, at all times be found important to keep in view the specific intensity of such T., as it affords the readiest means to discover those periods at which any peculiar change or difference in the condition of life is taking place. Various diseases have a maximum or minimum effect in destroying life at certain periods; and if a change to a higher specific intensity were found to take place at any given period, the diseases peculiar to that period should be falling from their maximum towards their minimum.

In the 3 Districts now under consideration, it was found that in all except one, the specific intensity uniformly decreased from the beginning to the end of the T.; but in the Rural Districts the specific intensity was found to increase from ages 20-31. Some change, either in the Rural Districts, or uniformly in the two others, must therefore have taken place in the causes affecting the duration of life at that period; and if the nature of this paper led to an examination of the diseases generally prevalent at the same period, the prob. is that consumption and diseases of the chest would be found less malignant at that term of life, in the Rural than in either the Town or City Districts.

The next arrangement of the data is in reference to the Expectation of Life; and here, perhaps, the differences in the several T. are seen more clearly than under any other arrangement. The following T. shows the expec. for each district, and also for the 3 districts combined [see T. on p. 30]:

A comparison of the expec. under the head of *Rural Districts* with that for males in the E. and W. T. (Neison) will show a much higher value of life in the Rural Districts throughout the whole range of the T. At age 10 the difference is 5.5 years in favour of the Rural Districts; at 30 it is 4.3 years; and at 60 the difference is 2.1 years. A comparison of the results for the *Town Districts* will show a superior expec. up to age 35, after which period the expec. is in favour of male life in the general T. for E. and W. The expec. of life in the *City Districts* will be found to be less than in E. and W. (Neison) from age 12 upwards. At 20 the difference is .68 years, at 40 it is 1.39 years, and at 60 the difference is .82 years in favour of the general value of male life. The excess in favour of the Rural Districts is shown most strongly by a comparison of the 3 districts in decennial periods. [TOWN LIFE.]

The next, and for our present purposes most important, arrangement of results for the purpose of comparison, is derived from the combination of the data of the 3 districts as in the last col. of the preceding T. These combined results "may be understood to represent the general value of male life among the members of the community composing F. Sos." Throughout the whole range of this T. the expec. of life is found to be higher than among the male pop. of the country generally. The results may be shown at decennial periods, as follows :

Age.	Expectation in		Difference in favour of the 3 Districts.	
	Three Districts.	E. and W. (Neison).	In Years.	Per Cent.
20	43.773	40.691	3.082	7.575
30	36.605	34.099	2.506	7.349
40	29.330	27.476	1.854	6.750
50	22.192	20.846	1.345	6.455
60	15.694	14.585	1.108	7.602
70	10.205	9.217	0.988	10.720

"A very important distinction (says Mr. Neison) is here found to prevail between the value of life in the two T. The circumstances in which the humble and working pop. of the country is placed have generally been thought adverse to a prolonged duration of life; but the healthiest Life T. hitherto formed have not shown anything so favourable as the present results, even among what are generally considered the select classes of society." Mr. Neison says hereon :

It may be well to be understood here that the persons composing F. Sos. are almost exclusively the hard-working members of the community, chiefly occupied in the drudgeries and toils of the mechanic arts, and consequently exposed to the inclemencies of seasons, excesses of temperature, impure atmospheres, constrained postures, and other conditions usually thought objectionable. Their incomes are very limited, affording but the scantiest and simplest means of support. Their habitations are of an inferior order, being of the cheapest kind, and consequently in the worst streets. The members of F. Sos. are therefore generally placed in those circumstances which persons habituated to the luxuries of the upper ranks of society would regard as unfavourable to health and a superior duration of life. *In making these remarks, however, it is necessary, as will hereafter be seen, to make a distinction between them and the great bulk of the poorer classes of the country.* For an individual to remain a member of a F. So., it is required that he should make his weekly or monthly contribution to its funds; and although a few pence is all that is needed, it presumes on a certain amount of frugality and industrial habit, sufficient to separate him from the reckless and improvident person who is more openly exposed to the vicissitudes—poverty, distress, destitution and disease—incidental to fluctuations in the demand for labour.

Feeling, however, that the superior value of life among the members of F. Sos. was a result "that generally would not have been anticipated," he proceeds to consider the very natural question, "From what source or class does the excess of mort., which makes up the general average of the community, arise?" He proceeds :

Those persons having transactions with the assu. cos. belong, with very few exceptions, either to the middle or the higher ranks of society; and if the value of life as deduced from obs. in those cos.

EXPECTATION.—*Males.*

(Trades not Classified.)

Ages.	Rural Districts.	Town Districts.	City Districts.	Rural, Town, and City Districts.	Ages.	Rural Districts.	Town Districts.	City Districts.	Rural, Town, and City Districts.
10	53'258	50'537	47'912	51'809	56	19'286	16'065	16'259	18'200
11	52'379	49'675	47'101	50'938	57	18'618	15'468	15'637	17'563
12	51'463	48'810	46'287	50'064	58	17'916	14'887	15'015	16'933
13	50'626	47'948	45'472	49'196	59	17'301	14'319	14'400	16'310
14	49'773	47'094	44'662	48'343	60	16'652	13'760	13'768	15'694
15	48'948	46'251	43'848	47'512	61	16'008	13'209	13'217	15'084
16	48'159	45'425	43'064	46'709	62	15'370	12'662	12'659	14'480
17	47'416	44'620	42'283	45'942	63	14'742	12'121	12'122	13'886
18	46'708	43'829	41'519	45'203	64	14'128	11'589	11'603	13'304
19	46'024	43'049	40'763	44'482	65	13'533	11'066	11'100	12'737
20	45'355	42'274	40'014	43'773	66	12'958	10'555	10'611	12'188
21	44'689	41'498	39'271	43'068	67	12'409	10'038	10'133	11'658
22	44'017	40'719	38'529	42'358	68	11'884	9'559	9'665	11'149
23	43'338	39'938	37'788	41'646	69	11'385	9'111	9'209	10'664
24	42'654	39'157	37'050	40'931	70	10'912	8'703	8'763	10'205
25	41'963	38'554	36'317	40'214	71	10'465	8'342	8'327	9'773
26	41'264	37'605	35'672	39'494	72	10'045	8'038	7'901	9'371
27	40'560	36'839	34'959	38'773	73	9'645	7'773	7'484	8'990
28	39'848	36'079	34'255	38'052	74	9'262	7'531	7'075	8'624
29	39'130	35'325	33'556	37'328	75	8'889	7'294	6'676	8'267
30	38'407	34'575	32'860	36'605	76	8'521	7'046	6'284	7'911
31	37'678	33'829	32'163	35'880	77	8'154	6'769	5'897	7'551
32	36'944	33'086	31'469	35'154	78	7'796	6'468	5'521	7'192
33	36'307	32'346	30'781	34'428	79	7'453	6'149	5'159	6'841
34	35'465	31'606	30'099	33'701	80	7'131	5'815	4'814	6'501
35	34'721	30'866	29'425	32'974	81	6'839	5'469	4'487	6'180
36	33'974	30'125	28'759	32'246	82	6'580	5'113	4'177	5'879
37	33'226	29'383	28'097	31'517	83	6'335	4'756	3'891	5'588
38	32'477	28'639	27'440	30'787	84	6'085	4'403	3'623	5'297
39	31'725	27'896	26'790	30'058	85	5'810	4'059	3'373	4'993
40	30'972	27'153	26'087	29'330	86	5'490	3'727	3'140	4'665
41	30'217	26'411	25'510	28'603	87	5'108	3'406	2'922	4'299
42	29'459	25'671	24'884	27'878	88	4'684	3'106	2'721	3'919
43	28'701	24'935	24'263	27'155	89	4'244	2'833	2'537	3'542
44	27'944	24'204	23'646	26'435	90	3'809	2'586	2'372	3'183
45	27'188	23'426	23'029	25'717	91	3'384	2'374	2'226	2'854
46	26'434	22'761	22'412	25'003	92	2'987	2'208	2'105	2'566
47	25'683	22'052	21'791	24'292	93	2'616	2'072	2'001	2'315
48	24'948	21'351	21'168	23'586	94	2'266	1'950	1'903	2'086
49	24'200	20'612	20'546	22'885	95	1'939	1'818	1'802	1'869
50	23'470	19'973	19'927	22'192	96	1'644	1'667	1'676	1'651
51	22'748	19'295	19'311	21'506	97	1'379	1'473	1'460	1'407
52	22'037	18'624	18'701	20'828	98	1'066	1'218	1'189	1'154
53	21'337	17'962	18'093	20'159	99	.847	.977	.928	.886
54	20'648	17'314	17'446	19'498	100	.500	.500	.500	.500
55	19'962	16'681	16'875	18'845					

be admitted as a correct measure for such classes, it will be found that their duration of life is not only less than among the members of F. Sos., but also less than in the country generally. . . .

It may be said, in reply to some of the preceding obs., that the superior value of life in the ranks of F. Sos. above the general community is owing to the effects of selection; but a little reflection will show that the difference must be produced by other causes. Every reasonable means is adopted to test the lives admitted into assu. cos., and yet they appear to be of less value than the general average of the country; and F. Sos. are known not to exercise the same degree of scrutiny. In both the interest of the applicant for admission is opposed to that of the So. . . . The known caution, however, usually exercised in these matters, and the medical talent brought to the aid of the [Life] offices, is a precaution against the very worst lives of that class: about 23 p.c. of the applicants being the average number rejected.

F. Sos., although not equally solicitous, are still not without tests for the admission of members; and they possess one advantage over assu. cos.—the members and those likely to be candidates are generally intimately known in their daily habits and ordinary health to each other; and where evidently bad health exists, admission is refused.

A consideration of all that has been advanced will show that the greater vitality among members of F. Sos. cannot be accounted for by the superior mode in the selection of lives; for, if that argument were carried out to its full extent, it would go to prove that the other classes in question had, in that respect, the advantage. The blessing thus bestowed on the frugal and industrious workmen of the country composing F. Sos., in having granted them, as appears by the present inquiry, a prolonged duration of life, must therefore be regarded as a really true and distinctive feature of that class of persons, and is, no doubt the result of their simple and uniform habits of life, and the more regular and natural physical exercises to which they are habituated. [OCCUPATIONS.]

The position here taken by Mr. Neison he supports by reference to the *Experience T. No. 1*; Finlaison's *Gov. Annuitants T.*; and the *Peerage Mort. T.* of Dr. Guy. He points out a correction required to be kept in mind in comparing his combined T. with the gen. pop. of the kingdom.

He passes on to the next stage of the question—*Occupations*. “Hitherto it has been thought sufficient to rest at this stage in all inquiries into the influence of locality on the duration of life, and to assign the difference thus appearing in the value of life between the respective districts to the peculiar influence of Town or City life. *Other causes than locality will, however, be shown to influence the duration of life.* We propose to deal with the chief features here presented, under the general title OCCUPATIONS, INFLUENCE OF.

Returning to *Locality*, viewed apart from the question of Occupation—although in reality occupation is one of the influences nearly always affecting locality—there is given by Mr. Neison the expc. of life of the male members of F. Sos. in *Liverpool*, and also of the male members of F. Sos. comprising 16 trades in the *Rural Districts*: these we reproduce as follows:

Expectation of Life.—Males.

Age.	F. Sos. <i>Liverpool</i> . Males.	F. Sos. 16 Trades Rural Districts.	Age.	F. Sos. <i>Liverpool</i> . Males.	F. Sos. 16 Trades. Rural Districts.	Age.	F. Sos. <i>Liverpool</i> . Males.	F. Sos. 16 Trades. Rural Districts.
10	46'000	52'036	41	22'506	29'343	71	8'243	10'344
11	45'181	51'155	42	21'866	28'579	72	7'858	9'864
12	44'359	50'386	43	21'233	27'812	73	7'404	9'386
13	43'537	49'393	44	20'607	27'049	74	7'068	8'916
14	42'718	48'529	45	19'990	26'237	75	6'672	8'469
15	41'900	47'686	46	19'383	25'561	76	6'279	8'046
16	41'103	46'869	47	18'687	24'848	77	5'892	7'655
17	40'312	46'085	48	18'205	24'153	78	5'515	7'297
18	39'527	45'332	49	17'640	23'472	79	5'153	6'975
19	38'743	44'604	50	17'094	22'799	80	4'806	6'690
20	37'955	43'897	51	16'570	22'130	81	4'479	6'445
21	37'157	43'210	52	16'070	21'462	82	4'171	6'245
22	36'345	42'537	53	15'583	20'794	83	3'883	6'068
23	35'527	41'875	54	15'097	20'130	84	3'613	5'887
24	34'712	41'219	55	14'602	19'468	85	3'362	5'679
25	33'906	40'505	56	14'088	18'809	86	3'125	5'415
26	33'118	39'909	57	13'544	18'154	87	2'904	5'069
27	32'354	39'247	58	12'996	17'505	88	2'697	4'665
28	31'606	38'578	59	12'462	16'863	89	2'504	4'235
29	30'871	37'902	60	11'962	16'232	90	2'352	3'802
30	30'143	37'223	61	11'515	15'611	91	2'197	3'376
31	29'417	36'538	62	11'137	15'002	92	2'060	2'979
32	28'688	35'846	63	10'809	14'408	93	1'942	2'605
33	27'961	35'149	64	10'513	13'833	94	1'829	2'251
34	27'439	34'446	65	10'232	13'279	95	1'706	1'919
35	26'526	33'737	66	9'946	12'749	96	1'552	1'612
36	25'825	33'023	67	9'640	12'245	97	1'375	1'328
37	25'139	32'303	68	9'315	11'759	98	1'146	1'065
38	24'466	31'576	69	8'973	11'285	99	'875	'841
39	23'805	30'841	70	8'615	10'816	100	'500	'500
40	23'152	30'097						

The *exp. of life* for all trades in *Liverpool* is seen to be lower than that of T. 3 (City Districts) previously given; while the *exp. for the 16 trades* (Rural Districts) is greater than that of the Town and City Districts, and of the Rural and other districts combined, through all the ages of life except the most extreme. [LIVERPOOL.]

The next T. given is one for the *Female* Life among members of F. Sos. in E. and W., for the Rural, Town, and City Districts combined, as follows:

RURAL, TOWN AND CITY DISTRICTS.—*Females.*

(Trades not Classified.)

Ages.	Living.	Dying.	Mort. p.c.	Specific Intensity.	Expec.	Ages.	Living.	Dying.	Mort. p.c.	Specific Intensity.	Expec.
10	100,000	1389	1'3888	71'994	49'492	56	62,073	1061	1'7094	58'514	19'958
11	98,611	1370	1'3888	71'994	49'182	57	61,012	1039	1'7021	58'754	19'296
12	97,241	1334	1'3715	72'886	48'868	58	59,973	1020	1'7002	58'824	18'622
13	95,907	1282	1'3368	74'794	48'541	59	58,953	1004	1'7037	58'685	17'935
14	94,625	1216	1'2848	77'821	48'192	60	57,949	992	1'7126	58'377	17'238
15	93,409	1135	1'2155	82'237	47'813	61	56,957	984	1'7269	57'904	16'529
16	92,274	1042	1'1288	88'574	47'394	62	55,973	1024	1'8294	54'675	15'811
17	91,232	951	1'0429	95'877	46'930	63	54,949	1110	2'0202	49'505	15'096
18	90,281	865	'9579	104'395	46'419	64	53,839	1238	2'2991	43'497	14'397
19	89,416	781	'8736	114'469	45'863	65	52,601	1403	2'6663	37'509	13'724
20	88,635	700	'7902	126'550	45'264	66	51,198	1598	3'1216	32'031	13'086
21	87,935	622	'7076	141'323	44'619	67	49,600	1792	3'6120	27'685	12'492
22	87,313	569	'6521	153'351	43'934	68	47,808	1978	4'1375	24'166	11'942
23	86,744	541	'6237	160'334	43'219	69	45,830	2153	4'6980	21'286	11'433
24	86,203	537	'6224	160'668	42'487	70	43,677	2312	5'2936	18'889	10'975
25	85,666	555	'6482	154'273	41'750	71	41,365	2451	5'9242	16'880	10'560
26	85,111	597	'7010	142'653	41'019	72	38,914	2491	6'4013	15'623	10'194
27	84,514	621	'7349	136'073	40'305	73	36,423	2449	6'7247	14'870	9'856
28	83,893	629	'7499	133'351	39'600	74	33,974	2342	6'8945	14'503	9'531
29	83,264	621	'7462	134'012	38'895	75	31,632	2186	6'9106	14'470	9'200
30	82,643	598	'7237	138'179	38'184	76	29,446	1995	6'7731	14'765	8'846
31	82,045	560	'6825	146'520	37'458	77	27,451	1870	6'8123	14'680	8'452
32	81,485	539	'6618	151'103	36'712	78	25,581	1797	7'0282	14'229	8'033
33	80,946	535	'6615	151'172	35'954	79	23,784	1765	7'4207	13'475	7'603
34	80,411	548	'6816	146'714	35'189	80	22,019	1759	7'9899	12'516	7'172
35	79,863	577	'7221	138'485	34'428	81	20,260	1770	8'7357	11'447	6'751
36	79,286	621	'7830	127'714	33'674	82	18,490	1751	9'4684	10'562	6'359
37	78,665	658	'8367	119'517	32'936	83	16,739	1705	10'1880	9'814	5'962
38	78,007	689	'8833	113'212	32'210	84	15,034	1637	10'8946	9'183	5'581
39	77,318	713	'9227	108'378	31'492	85	13,397	1553	11'5880	8'628	5'202
40	76,605	732	'9550	104'712	30'781	86	11,844	1453	12'2683	8'150	4'819
41	75,873	744	'9800	102'041	30'073	87	10,391	1335	12'8507	7'782	4'423
42	75,129	758	1'0085	99'108	29'366	88	9,056	1316	14'5351	6'878	4'001
43	74,371	774	1'0402	96'154	28'660	89	7,740	1294	16'7216	5'981	3'596
44	73,597	791	1'0754	93'023	27'956	90	6,446	1251	19'4102	5'152	3'218
45	72,806	811	1'1139	89'767	27'255	91	5,195	1174	22'6008	4'425	2'873
46	71,995	832	1'1557	86'505	26'556	92	4,021	1069	26'5925	3'759	2'566
47	71,163	861	1'2095	82'645	25'861	93	2,952	881	29'8333	3'352	2'314
48	70,302	897	1'2753	78'431	25'171	94	2,071	684	33'0399	3'027	2'086
49	69,405	939	1'3531	73'910	24'490	95	1,387	504	36'3589	2'750	1'868
50	68,466	988	1'4428	69'300	23'820	96	883	350	39'6498	2'522	1'649
51	67,478	1042	1'5444	64'767	23'161	97	533	241	45'1555	2'214	1'404
52	66,436	1078	1'6232	61'614	22'516	98	292	155	52'9127	1'890	1'150
53	65,358	1097	1'6791	59'559	21'879	99	137	84	61'3067	1'631	'886
54	64,261	1100	1'7121	58'411	21'244	100	53	53	75'0000	1'333	'500
55	63,161	1088	1'7222	58'072	20'606						

Mr. Neison pointed out that the T. of male and female life here given seem to possess in many respects the same relation as those given for male and female life generally in E. and W.: the specific intensity at the earlier periods being higher for male than female life, crossing each other at the middle periods, and turning in favour of female life at the advanced ages. "It will be seen that the male pop. of Table F. for the 3 districts [T. No. 4 previously given] is bisected at 66·7, and that the female pop. in Table K. No. 1 [Table last given] is also bisected at the same period of life. In the general population of the country the same thing takes place a year later among females than among males."

The following abstract shows the relative value of male and female life in the country generally, as well as in F. Sos.:

Age.	Expec. of Life in E. and W. (Neison).			Expec. of Life among the Members of F. Sos.		
	Males.	Females.	Differences.	Males.	Females.	Differences.
20	40·691	41·598	·907	43·773	45·264	1·490
30	34·099	35·167	1·068	36·605	38·184	1·579
40	27·476	28·733	1·257	29·330	30·781	1·450
50	20·846	22·054	1·208	22·192	23·820	1·628
60	14·585	15·523	·939	15·694	17·238	1·543
70	9·217	9·840	·937	10·205	10·975	·769

It will thus be seen (says Mr. Neison) that the distinction between male and female life among the members of F. Sos. differs very little from that between the sexes in the country generally; and this difference would be considerably reduced if the necessary corrections for employments were made: as the data for male life in F. Sos. will be composed of a much higher proportion of unhealthy trades, in relation to the whole male pop. of the country, than the data for female life in comparison with the whole female pop. "This coincidence of course tends to strengthen the confidence to be reposed in both classes of results, and brings forward an add. argument against the sufficiency of certain inquiries hitherto made, showing in some instances so wide a distinction between the value of life in the sexes." [FEMALE LIFE.]

Scotland.—As already explained, Mr. Neison obtained a separate set of returns from the F. Sos. of *Scotland*. From the facts embodied in these he constructed a distinct set of T. He says: "The results thus derived will be of the more importance as serving to confirm those obtained from the English Sos.; and their value in this respect is enhanced by the fact that the Scotch returns extend over a period of 12 years, while those by the English Sos. were limited to 5 years. The Scotch returns were also made under quite different circumstances from those of the English, and they thus act as checks on each other."

Three sets of Mort. T. were deduced, as in the case of the Eng. Sos., viz. for (1) *Rural*, (2) *Town*, and (3) *City* Districts; but in this case we do not propose to reproduce the several T. in their entirety. The "Expectation" cols. will be sufficient, with the other explanations given, to indicate their main points of diversity from the English and other T. [SCOTLAND.]

[Here read the T. on p. 34.]

An inspection of the T. for the *Rural* Districts of Scotland shows that the Specific Intensity increases in a uniform ratio from the earliest age in the T. to the extreme of life. A comparison with the T. for the Rural Districts of Eng. will show a higher specific intensity in the Rural Districts of Scot. till age 34; but from that age to 54 it is lower in Scot.; and from 54 to the end of the T. the specific intensity is sometimes higher and sometimes lower. "A more general and comprehensive view of the two T. will be obtained by comparing the equation of life; for age 10 it takes place between the ages 67-8 in the Rural Districts of Scot., but between ages 68-9 in Eng. Again, the equation for age 30 takes place in both T. between 70 and 71. Considering the different sources from which the data of the two T. are derived, and the different periods of years over which the observations extend, the agreement of the T. in this respect is somewhat remarkable.

In the *Town* Districts of Scot. half the pop. dies off at the ages of 65-6; but in the *Town* Districts of Eng. the same thing takes place a year earlier. "It is in the *City* Districts of Scot. that the most marked difference is found; and when it is recollected that the only places included in the list of Scotch Cities are *Edinburgh*, *Glasgow*, *Paisley*, and *Aberdeen*, and that the obs. relate chiefly to the 3 first-named places, it will in some measure account for the very high mort." An inspection of the T. of *City* Districts shows a much lower specific intensity for Scot. up to age 60 than even for *Liverpool*; but from that age to 80 it is higher than in *Liverpool*. In the *City* Districts of Scot. half the pop. dies off between the ages of 53-4—being 8 years earlier than in the *City* Districts of Eng., and 5 years sooner than in *Liverpool*; and in fact coming very close upon the worst class

EXPECTATION OF LIFE—*Scotland.*

Ages.	Rural Districts.	Town Districts.	City Districts.	Rural, Town, and City Districts.	Ages.	Rural Districts.	Town Districts.	City Districts.	Rural, Town, and City Districts.
10	53'051	50'743	42'637	50'803	56	18'611	16'043	14'828	17'895
11	52'172	49'883	41'804	49'929	57	17'933	15'273	14'446	17'279
12	51'291	43'018	40'969	49'053	58	17'273	14'532	14'075	16'681
13	50'416	48'159	40'133	48'182	59	16'634	13'816	13'707	16'099
14	49'558	47'315	39'300	47'326	60	16'018	13'121	13'334	15'534
15	48'722	46'491	38'472	46'489	61	15'426	12'441	12'949	14'984
16	47'917	45'694	37'653	45'681	62	14'861	11'774	12'543	14'450
17	47'150	44'931	36'844	44'906	63	14'316	11'147	12'119	13'928
18	46'412	44'193	36'057	44'159	64	13'783	10'587	11'675	13'416
19	45'695	43'470	35'300	43'433	65	13'258	10'117	11'212	12'909
20	44'990	42'752	34'586	42'721	66	12'735	9'761	10'729	12'405
21	44'288	42'030	33'921	42'020	67	12'207	9'549	10'227	11'901
22	43'583	41'298	33'315	41'322	68	11'680	9'416	9'722	11'402
23	42'873	40'553	32'749	40'625	69	11'160	9'301	9'231	10'910
24	42'160	39'796	32'203	39'928	70	10'651	9'136	8'767	10'429
25	41'442	39'026	31'660	39'227	71	10'157	8'854	8'343	9'962
26	40'720	38'243	31'101	38'521	72	9'680	8'392	7'971	9'511
27	39'993	37'447	30'510	37'809	73	9'210	7'830	7'630	9'068
28	39'261	36'643	29'897	37'091	74	8'737	7'244	7'297	8'624
29	38'524	35'839	29'269	36'371	75	8'251	6'696	6'952	8'170
30	37'782	35'039	28'635	35'651	76	7'743	6'240	6'575	7'699
31	37'034	34'250	28'004	34'931	77	7'203	5'928	6'146	7'203
32	36'280	33'474	27'382	34'215	78	6'662	5'717	5'694	6'705
33	35'524	32'712	26'770	33'504	79	6'141	5'566	5'243	6'228
34	34'767	31'963	26'165	32'796	80	5'659	5'435	4'815	5'788
35	34'012	31'227	25'567	32'095	81	5'235	5'279	4'425	5'401
36	33'262	30'502	24'975	31'400	82	4'882	5'052	4'091	5'083
37	32'519	29'787	24'389	30'712	83	4'588	4'774	3'802	4'814
38	31'781	29'077	23'806	30'028	84	4'338	4'466	3'547	4'577
39	31'044	28'364	23'226	29'343	85	4'123	4'146	3'318	4'352
40	30'305	27'641	22'647	28'656	86	3'934	3'830	3'105	4'121
41	29'562	26'903	22'067	27'963	87	3'760	3'534	2'900	3'864
42	28'812	26'144	21'486	27'260	88	3'592	3'258	2'704	3'592
43	28'059	25'382	20'862	26'554	89	3'419	3'002	2'521	3'316
44	27'307	24'633	20'343	25'850	90	3'228	2'761	2'350	3'044
45	26'557	23'909	19'794	25'151	91	3'093	2'541	2'195	2'783
46	25'812	23'225	19'268	24'463	92	2'724	2'339	2'058	2'538
47	25'076	22'594	18'770	23'789	93	2'421	2'154	1'936	2'307
48	24'347	21'987	18'294	23'125	94	2'118	1'978	1'825	2'088
49	23'621	21'377	17'834	22'467	95	1'818	1'807	1'708	1'873
50	22'898	20'741	17'386	21'812	96	1'542	1'627	1'571	1'651
51	22'174	20'054	16'944	21'155	97	1'292	1'400	1'375	1'404
52	21'449	19'297	16'503	20'493	98	1'056	1'151	1'147	1'151
53	20'727	18'494	16'068	19'831	99	'847	'887	'875	'885
54	20'011	17'671	15'642	19'175	100	'500	'500	'500	'500
55	19'304	16'848	15'227	18'528					

of results in Eng., viz. *Clerks*—in which half the pop. is cut off at ages 51-2. “But as the numbers over which the observations extend in the City Districts in Scot. are limited, less confidence might reasonably be placed in the results, and the excessive mort. in part assigned to the fluctuation to which small numbers are subject.” On examination, however, of the various groups of results making up the whole class for the City Districts, they were, without exception, found subject to a high rate of mort., carrying thus evidence of an absolutely higher mort. than in the average of Eng. Cities.

The results for the 3 Districts combined show a less specific intensity than in Eng. up to age 66; and from that age upwards the T. cross each other. In the general results for Scot. half the pop. dies off between the ages 64-5; but in the general results for Eng. the like event is prolonged 2 years beyond that period.

Confining ourselves to the *Expectation of Life* only, it will be found that in the *Rural* Districts of Scot. it is less than in Eng. by about half a year, from ages 20 to 75; but the *Town* Districts of Scot. give a higher expec. than in Eng. till beyond 70 years of age; and the *City* Districts of Scot. show a lower expec. of life than Liverpool up till about 50 years of age. In order to admit of a better comparison, the general results for the 3 Districts of Scot. and Eng. were arranged as annexed, for decennial ages.

In using Expectation T. it is necessary to keep in mind some of the points spoken of under EXPECTATION OF LIFE.

Mr. Neison says:

From a consideration of these results it will be seen that the *Rural* Districts of the two countries have shown the nearest approximation; and this is precisely what would have been anticipated from a careful consideration of the elements entering into the formation of the respective T. *In the Rural Districts of all countries the condition of the pop. as to Occupation and Employment is more nearly the same than in the Town or City Districts; and since employment has been shown to have so important an effect on the duration of life, the rate of mort. should differ less in the Rural Districts, where less diversity of employment exists. Before, however, fixing definitely on the Scotch Cities so high a rate of mort. as that shown in Table M. [we have not given this T.], it should be kept in view that one very important element of the investigation has not been touched upon. In considering the condition of Eng. Cities, it was shown how an accidental combination of certain trades [OCCUPATIONS] would produce a very different result from the fair average of the gen. pop.; so also, in the present comparison of the Scotch with the Eng. Cities, may an excess of particular trades, not common to both districts, or not existing in both districts in the same ratio, modify the results. The inquiry will therefore not be complete till similar trades in both Districts be compared. To enter further into that question would, as already stated, be to go beyond the limits assigned to this paper.*

In view of the difference shown in the value of life as existing in the Scot. and Eng. cities, and for its more complete investigation, Mr. Neison prepared Mortality T. for the general population of *Glasgow* and *Dundee* respectively. The latter T. has already been given under DUNDEE; the former will be given under GLASGOW, MORTALITY T. FOR.

We may remark in reference to these T. that while the general results for F. Sos. in E. and W. were found to be more favourable to life than the results for the whole pop. of E. and W., and that in both sexes; and as also the results for the members of F. Sos. in *Liverpool* were more favourable than those for the whole pop. of *Liverpool*; so here likewise, it is seen that the mort. of the gen. pop. of *Glasgow* is greater than among the members of F. Sos. in the *City* Districts of Scot. In *Dundee* the duration of life was found to be greater than its average among the members of F. Sos. in the *City* Districts of Scot. [DUNDEE.]

Sickness.—From the data already indicated [see further hereon historical art. on F. Sos. —close of 1845] Mr. Neison prepared T. of the sickness experienced—1. In the *Rural*, *Town*, and *City* Districts in E. and W. respectively. 2. In these Districts combined. 3. In the combined *Rural*, *Town*, and *City* Districts of *Scotland*.

Mr. Neison says: “Owing to the greater practical convenience of collecting and arranging the data, as well as of subsequently applying the results to the more useful purposes of F. Sos., the amount of sickness throughout the whole of this paper is invariably expressed under the denomination of weeks.” For example, in the following T. opposite to age 35, and under the head of *Rural* Districts, the decimal expression .8991 signifies that the average amount of sickness to each individual p.a. is that fraction of a week. And again, opposite the same age in the *City* Districts the average amount of sickness to each person in the course of a year is 1.2372 weeks. “When, however, it is required to change the expression to the more scientific denomination of the fraction of a year, that can be easily done by multiplying any of the results by .09178.” In this connexion it may be well to state that the rate of sickness was deduced from the orig. data at quinquennial periods of life, but was extended to all ages “by interpolating the terms for the intermediate years of age, by the method of third differences.”

Here follows the completed T. (see next page).

Age.	Expec. of Life in F. Sos. in		Difference in favour of Eng. in Years.
	Scotland.	England.	
20	42.721	43.773	1.051
30	35.651	36.605	0.953
40	28.656	29.330	0.674
50	21.812	22.192	0.379
60	15.018	15.694	0.675
70	10.429	10.205	—0.223

Average Sickness p. a. to each Person at the following Ages—expressed in Weeks.

[Neison's Table V.]

Age.	ENGLAND AND WALES.				SCOT.	Age.	ENGLAND AND WALES.				SCOT.
	Rural Districts.	Town Districts.	City Districts.	Rural, Town, and City Districts.	Rural, Town, and City Districts.		Rural Districts.	Town Districts.	City Districts.	Rural, Town, and City Districts.	Rural, Town, and City Districts.
10	'2257	1'2666	'3453	'4659	'2197	56	2'5240	3'4903	3'5246	2'8956	2'8279
11	'4233	1'0820	'3453	'5616	'2197	57	2'7756	3'7450	3'7545	3'1371	3'0307
12	'5909	'9392	'3453	'6412	'2446	58	3'0811	4'0670	3'9932	3'4293	3'2841
13	'7205	'8382	'3453	'7046	'2945	59	3'4402	4'4564	4'2408	3'7722	3'5879
14	'8041	'7788	'3453	'7520	'3692	60	3'8531	4'9132	4'4973	4'1657	3'9423
15	'8437	'7612	'3453	'7833	'4689	61	4'3198	5'4373	4'7626	4'6099	4'3472
16	'8414	'7853	'3453	'7984	'5935	62	4'9308	6'1219	5'0357	5'1904	4'8894
17	'8397	'8069	'3674	'8117	'6946	63	5'6863	6'6670	5'3167	5'9073	5'5687
18	'8387	'8259	'4115	'8230	'7722	64	6'5862	7'9726	5'6054	6'7605	6'3853
19	'8384	'8424	'4777	'8324	'8264	65	7'6305	9'1387	5'9019	7'7501	7'3391
20	'8387	'8564	'5659	'8398	'8570	66	8'8192	10'4652	6'2062	8'8760	8'4302
21	'8397	'8678	'6762	'8453	'8642	67	10'0700	11'7646	6'7643	10'0679	9'6159
22	'8426	'8746	'7713	'8515	'8688	68	11'3829	13'0368	7'5761	11'3257	10'8904
23	'8475	'8767	'8511	'8585	'8709	69	12'7579	14'2817	8'6417	12'6494	12'2715
24	'8542	'8741	'9157	'8661	'8703	70	14'1949	15'4995	9'9610	14'0391	13'7414
25	'8630	'8649	'9650	'8744	'8672	71	15'6940	16'6901	11'5341	15'4947	15'3060
26	'8736	'8551	'9991	'8834	'8615	72	17'1025	18'1368	13'5632	16'9652	16'9019
27	'8802	'8504	'10303	'8915	'8557	73	18'4205	19'8395	16'0483	18'4506	18'5292
28	'8827	'8529	'10584	'8988	'8498	74	19'6479	21'7984	18'9894	19'9509	20'1877
29	'8810	'8626	'10837	'9052	'8437	75	20'7848	24'0134	22'3864	21'4661	21'8777
30	'8753	'8794	'11059	'9107	'8376	76	21'8312	26'4844	26'2394	22'9963	23'5989
31	'8655	'9035	'11252	'9154	'8314	77	22'7113	28'6170	29'4479	24'3088	25'0897
32	'8630	'9287	'11480	'9503	'8302	78	23'4252	30'4112	32'0120	25'4036	26'3501
33	'8677	'9551	'11742	'10153	'8340	79	23'9730	31'8669	33'9315	26'2809	27'3800
34	'8798	'9827	'12040	'11106	'8429	80	24'3545	32'9841	35'2065	26'9405	28'1795
35	'8991	'10114	'12372	'12360	'8567	81	24'5698	33'7629	35'8370	27'3825	28'7485
36	'9257	'10414	'12740	'13916	'8756	82	24'8912	34'6970	36'3375	27'9052	29'4124
37	'9551	'10819	'13152	'15018	'8970	83	25'3187	35'7864	36'7080	28'5086	30'1713
38	'9872	'11330	'13611	'15664	'9210	84	25'8523	37'0310	36'9484	29'1927	31'0250
39	'10221	'11947	'14114	'15857	'9476	85	26'4920	38'4310	37'0588	29'9575	31'9737
40	'10677	'12669	'14663	'15594	'9767	86	27'2378	39'9863	37'0392	30'8030	33'0174
41	'11002	'13498	'15258	'14877	'10083	87	27'5232	41'0552	37'0235	31'0985	33'7581
42	'11398	'14477	'15901	'14453	'10512	88	27'3481	41'8078	37'0118	30'8440	34'1959
43	'11786	'15608	'16593	'14322	'11053	89	26'7126	42'3340	37'0039	30'0394	34'3308
44	'12166	'16890	'17335	'14484	'11707	90	25'6167	42'5438	37'0000	28'6849	34'1628
45	'12537	'18323	'18125	'14939	'12472	91	24'0603	42'6673	37'0000	26'7804	33'6918
46	'12900	'19908	'18964	'15688	'13350	92	22'0610	42'9661	37'0000	24'4216	33'6451
47	'13417	'21423	'19954	'16528	'14397	93	19'6187	43'2402	37'0000	21'6085	34'0225
48	'14089	'22871	'21095	'17461	'15612	94	16'7334	43'4896	37'0000	18'3411	34'8242
49	'14915	'24249	'22388	'18486	'16996	95	13'4051	43'7143	37'0000	14'6194	36'0500
50	'15896	'25559	'23831	'19603	'18548	96	9'6339	43'7143	37'0000	10'4434	37'7000
51	'17031	'26800	'25426	'20812	'20269	97	6'6169	43'7143	37'0000	7'1026	39'0200
52	'18335	'28168	'27144	'22161	'21950	98	4'3541	43'7143	37'0000	4'5970	40'0100
53	'19808	'29662	'28985	'23650	'23592	99	2'0914	43'7143	37'0000	2'0914	41'0000
54	'21450	'31280	'30949	'25279	'25194	100	2'0914	43'7143	37'0000	2'0914	41'0000
55	'23260	'33029	'33036	'27047	'26756						

An examination of the rates of sickness as given for the *Rural* Districts will show that it fluctuates up to the age of 32, and that from that age up to 87 there is a uniform and gradual increase. In the *Town* Districts the rate of sickness will be found subject to a similar increase from the age of 27 upwards; and in the *City* Districts the rate increases throughout the whole range of the T. A comparison will show a higher rate of sickness in the *Town* than in the *Rural* Districts, throughout the whole period of life. The rate of sickness in the *City* Districts will also be found higher than in the *Rural* Districts from 23 to 63 years of age; it then continues at a lower rate up to the age of 75, when it again rises, and continues higher until the end of life. In the *City* Districts from the age

of 24 to 41 the sickness is also higher than in the *Town* Districts ; but from 45 to 57 the rate in both districts differs but little. After 57 years of age to the end of life, there is a much higher rate of sickness in the *Town* than in the *City* Districts.

Mr. Neison says : "Sickness will be found to follow to some extent the same law with regard to the influence of *Locality* that was observed to connect itself with mort. ; being least in the *Rural* Districts, and increasing in amount in the other Districts ; but it will be observed that the relation of cause and effect generally supposed to exist between sickness and mort. is not here manifested—in fact, the highest ratio of sickness is sometimes found associated with a favourable rate of mort. In order to show, however, the merits of this hypothesis for the general results of the 3 Districts, a T. is subjoined showing the increase p.c. in the rate of mort. in the *Town* and *City* Districts above the *Rural* ; also the increased rate of sickness in the same Districts at the corresponding ages." Here is the T.

Ages.	Increased Mort. p.c. above the Rural Districts in the		Increased Sickness p.c. above the Rural Districts in the	
	Town Districts.	City Districts.	Town Districts.	City Districts.
20	27'600	12'720	2'1104	32'7650
30	5'485	30'520	0'4684	26'3338
40	20'451	75'784	18'6560	37'3419
50	35'583	61'666	60'7220	49'9182
60	51'527	41'018	27'5130	16'7200
70	43'299	26'724	9'1906	29'8191

"Abundant evidence in add. to this is furnished out of the present materials illustrative of this point : for example, *Labourers*, although influenced by the most favourable rate of mort., are found to be subject to as high an amount of sickness as the general average ; and so also are some other occupations, in which the rate of mort. is also favourable, found subject to a rate of sickness much above the average." "Again, the sickness among the Sixteen Trades formerly referred to [T. of Expec. of Life already given] is less than the gen. average, although, as has been shown, they experience a greater mort. *Bakers* also, at the early and middle periods of life, are less subject to sickness than the general average, and among them there is likewise a higher mort. The class *Butchers* seem to experience a very high rate of mort., although not subject to above the average amount of sickness." Mr. Neison offers the following important considerations on this part of the question :

In applying the test of *mort.* to various localities and employments there is no difficulty ; but the case is very different in viewing sickness as an index to the sanitary condition of any Trade or of any Locality. What constitutes sickness in one case is often a very different thing from that in another. The standard seems too indefinite and capricious ; and although the results as obtained may be considered perfect for all the purposes of F. Sos., a careful inquiry will show their vague nature for medical and other scientific purposes, unless carried further than the mere amount of sickness, without regard to the circumstances under which it has taken place, and the causes producing it. Taking two occupations—Tailors and Clerks—which happen to be readiest of reference, they are found subject to a very high rate of mort. ; still they do not seem, particularly clerks, to be subject to so much as the average amount of sickness ; and on consideration of the nature of those employments, it will immediately suggest itself that the same trivial circumstances which would be sufficient to disable *Sawyers*, and also *Colliers* and *Miners*, would have little effect on those following quiet occupations. *Sawyers*, *Colliers*, and *Miners* are subject to accidents and various injuries which cannot be considered constitutional disease or sickness ; yet it entitles them to relief from Benefit Sos., and they will of course be returned on the sick list. Tailors and Clerks are less subject to those accidents, and accordingly their sickness is also less ; the other classes, particularly *Colliers* and *Miners*, being much above the average.

But the most striking refutation of the theory, that sickness and mort. bear relation to each other of cause and effect, will perhaps be derived from a comparison of the general results of mort. in F. Sos. in Eng. for all districts combined, as given in Table F. [No. 4 in Mort. section of this art.], with that for Scotland in Table M. [not given]. The result of this comparison will be, that the rate of mort. in Scotland among the members of F. Sos. is much higher than among the same class in Eng. ; and if the theory just recited were to hold good, there should also be found a greater amount of sickness in Scot. ; but an inspection of Table V. [the extended Sickness T.] will show that such is not the case, and instead of there being an increased ratio of sickness, the ratio is actually below that of Eng. Nothing further need therefore be said on this part of the subject ; but the argument may be rendered more obvious by an inspection of the following abstract, in which it will be seen that while the excess of mort. is uniformly against Scot., the excess of sickness is as constantly against Eng. [Here follows the T. referred to.]

Age.	Mort. p.c. in		Excess of Mort. in Scotland p.c.	Average Sickness yearly in		Excess of Sickness in Eng. p.c.
	England.	Scotland.		England.	Scotland.	
30	7563	7926	47997	9107	8376	80268
40	9386	10767	147134	15594	9767	373670
50	14267	15830	109538	19603	18548	53818
60	25054	29096	161331	41657	39423	53628

Mr. Neison then proceeds to face the practical question : "The relation which the Average Amount of Sickness, as developed by this inquiry, bears to the amount of

sickness as hitherto shown in other Sickness T.;" and adds, "The only T. to which it is deemed necessary to make reference are those contained in the Highland So.'s Rep. for 1824, and the T. given in the highly valuable work by Mr. Ansell on F. Sos. . . ."

For the sake of a convenient and general view of the relative results of these as compared with Mr. Neison's T., the following abstract is given :

Age.	Annual Amount of Sickness to each Person expressed in Weeks.				
	Highland So. 1824.	Ansell, 1835.	Average of Eng. Districts (Neison).	Excess p.c. above Highland So.	Excess p.c. above Ansell.
20	575	776	840	31'547	7'619
30	621	861	911	31'833	5'488
40	758	1'111	1'559	51'507	28'736
50	1'361	1'701	1'960	30'561	13'214
60	2'346	3'292	4'166	43'686	20'979
70	10'701	11'793	14'039	23'776	23'063

Mr. Neison offers the following obs. hereon :

The remarkable increase in the amount of sickness, as shown by the present results, beyond the two other T., will no doubt appear very startling to those not intimately familiar with the condition of F. Sos. throughout the country. The rate of sickness as given in the T. of the Highland So. has been long and generally acknowledged to be much below the actual average; and even so far back as 1825 it was thought unfavourably of by a Committee of the House of Commons. It is unnecessary to enter into the objections against the nature and source from which the data for the Highland So.'s T. were obtained, as that subject has been amply discussed elsewhere. For some time after Mr. Ansell's work appeared it was thought that contributions calculated according to the increased amount of sickness shown in his T. would render F. Sos. permanently safe; but instances occur almost daily of Sos. breaking down whose contributions approximate to those T.; and recently the increased amount of sickness has become so apparent to the members of some of the best regulated Sos., that meetings have been held, and rep. of a very clear and apposite kind pub., pointing to the increased amount of sickness as the cause of their falling condition. A knowledge of circumstances of this kind first led to the present inquiry, the orig. object of which was simply to answer the question, Whether F. Sos. actually were subject to a higher rate of sickness.

Some other criticisms on Mr. Ansell's T., here made, have already been presented in immediate connexion with that T.; while others will yet follow.

In order to give a more comprehensive view of the several T. over a period of years, the following arrangement was presented :

Comparative Amount of Sickness in various Periods of Years according to the Sickness Tables of the Highland So., the T. by Mr. Ansell, and the Results of this Inquiry.

From Age	Amount of Sickness in each Period of Years, expressed in Weeks.				
	Highland So.	Ansell.	Average for the Three Districts (Neison).	Excess p.c. over Highland So.	Excess p.c. over Ansell.
20 — 30	5'870	8'060	8'7145	32'641	7'510
30 — 40	6'728	9'535	12'1838	44'778	21'740
40 — 50	9'670	13'395	15'6832	38'341	14'590
50 — 60	17'827	22'562	27'0894	34'192	16'712
60 — 70	47'982	58'717	77'3029	37'929	24'042
70 — 80	.....	.....	205'3562	.....	.....
20 — 40	12'598	17'595	20'8983	39'718	15'806
30 — 50	16'398	22'930	27'8670	41'156	17'716
40 — 60	27'491	35'957	42'7726	35'727	15'934
50 — 70	65'803	81'279	104'3923	36'965	22'140
60 — 80	.....	.....	282'6591	.....	.....
20 — 50	22'268	30'990	36'5851	39'133	15'293
30 — 60	34'219	45'492	54'9564	37'734	17'221
40 — 70	75'473	94'674	120'0755	37'145	21'154
50 — 80	.....	.....	309'7485	.....	.....
20 — 60	40'089	53'552	63'6709	37'037	15'892
30 — 70	82'201	104'209	132'2593	37'848	21'208
40 — 80	.....	.....	325'4317	.....	.....
20 — 70	88'071	112'269	140'9738	37'526	20'361
30 — 80	.....	.....	337'6155	.....	.....
20 — 80	.....	.....	346'3300	.....	.....

An inspection of col. 4 of this T. will show that in the decennial periods of life for 20-70, the F. Sos. in E. and W. experience an excess of sickness of from 32 to 44 p.c. above that indicated in the T. of the Highland So.—an average increase of sickness over the whole of that period of 50 years of 37·526 p.c.; or, in other words, F. Sos. actually experience about 141 weeks' sickness in that 50 years, while the Highland So.'s T. would lead them to expect 88 weeks only. "The ruin of any So. under such conditions is inevitable"! Mr. Neison proceeds:

At the decennial periods of life from 30-70, it will be seen that there is an excess of sickness in the F. Sos. of E. and W. over Mr. Ansell's T. varying from 15 to 24 p.c.—or a mean difference over the whole of that period of 40 years of 21·208 p.c. This excess of sickness, as well as all the other results in p. 98 [the T. last given], are derived from making Table V. [Mr. Neison's T.] the standard of comparison; but if Mr. Ansell's T. were taken as the standard of comparison, the deficiency in amount of sickness over that period of years would be 29 instead of 21 p.c.; and at ages 60-70 the deficiency would be 31 instead of 24 p.c., as given at p. 98—or a deficiency of nearly one-third. But in regarding that T. as a general guide for F. Sos., its inadequacy for many cases will instantly appear by making it bear on the results of Table V. [Neison's] for the City Districts, in which, as already stated, the amount of sickness from 21 to 60 years of age is 75 weeks—being an excess over Mr. Ansell's T. for that period of no less than 41 p.c. The greatest care and discrimination should therefore be exercised in estab. F. Sos., not to adopt general results for the guidance of particular classes. *The laws of sickness and mort. are under peculiar modifications in each class, and must be developed before any safe practical conclusions can be arrived at deserving of public confidence.*

Mr. Neison next proceeds to give the results of a combination of the elementary data in a new form, "from which some useful conclusions may be drawn." In the preceding T. the rate of mort. had invariably been regarded in relation to every member of the So. or Sos. at the given ages; but in col. 1 of the following T. will be found the results of a different combination." "All the members at every year of life—or rather all the members of exactly the same age—being placed into one group, *it was then observed how many of these had actually experienced sickness during that year of life.* And these being abstracted from the total number of members of the same age, col. 1 was deduced, expressing for quinquennial periods of life the per-centage of members who are actually sick in the course of one year. For example, out of every 100 members aged 31-35 in a So., 21 will be on the sick list during some part of the year; but of the same number of members aged 61-5, at least 35 members would be sick during some period or other of the year." Here is the T.:

Age.	Per-centage of Members Sick during each Year. 1	Ratio of Sick Members to every 100 not Sick in every Year. 2	Mort. p. c. among those actually Sick. 3	Sickness p. ann. among those Actually Sick. 4	Total Amount of Sickness to each Death. 5
11 — 15	21'9565	28'1337	·9901	4'1231	416'4290
16 — 20	22'0743	28'3273	2'8571	3'5887	125'6032
21 — 25	22'0386	28'2686	3'0539	3'8518	126'1271
26 — 30	21'6997	27'7134	3'3271	4'1921	125'9977
31 — 35	21'0147	26'6058	3'7592	4'3585	115'9411
36 — 40	21'5471	27'4650	4'0686	4'9463	121'5732
41 — 45	22'9858	29'8463	4'5306	5'9418	131'1468
46 — 50	24'6042	32'6333	5'1657	6'8556	132'7123
51 — 55	27'6422	38'2022	6'2401	8'5104	136'3839
56 — 60	30'2424	43'3535	7'2732	10'9261	150'2235
61 — 65	35'5676	55'2015	8'6163	15'1975	176'3808
66 — 70	46'8493	88'1443	9'6004	24'2217	252'2988
71 — 75	58'3750	140'2400	12'1306	32'6275	268'9679
76 — 80	73'5916	278'6667	11'3636	36'2367	318'8876
81 — 85	74'4624	291'5790	18'4116	37'7633	205'1064
86 — 90	79'4872	387'5000	17'2043	41'0829	238'7943
91 — 95	50'0000	100'0000	.....	39'2450	.....
96 — 100	.....	.....	.....	.....	.....

An inspection of col. 1 will show that from the younger ages up to the period 31-5 the ratio or chance for any given number to be sick diminishes; but that from that period of life upwards, the tendency for any given number to be sick increases in a uniform and regular series. "No T. of this kind has hitherto existed; and it is believed that in add. to the more general purposes of V. Sta., it will be practically useful to B. Sos., *in enabling them to determine whether the numbers on their sick list be greater or less than the average.* Table V. will afford a means to determine whether the total amount of sickness in a So. be greater than the average; but the present T. simply points out the proportion of members to be expected on the sick list, and is perhaps more important than the other, as a test to the means of selection adopted for the admission of members." Col. 2 is simply a modification of col. 1, and needs no explanation further than to state, "that it will afford a ready means of testing the relation of the sick to the non-sick members in any one year, when placed in separate groups, as is generally done in Benefit Sos."

The T. given under sub-heading *Mort.* in this review of Mr. Neison's work showed the

rate of mort. for the general pop. of F. Sos. ; but in the 3rd col. of the preceding T. *will be found the mort. p.c. among those persons actually sick.* "The mort. among the pop. generally has been shown to increase with age ; so also does the mort. among those persons actually sick increase with age." In the quinquennial period of life 21-25 the mort. among those sick is 3.0539 p.c. ; but in the advanced period of life 66-70 the mort. is increased to 9.6004 p.c.—or more than three times that of the other period. An inspection of this col. will show *that there is a uniform and gradual rate of increase of mort.* Mr. Neison remarks :

T. of this kind are calculated to throw important light on the subject of V. Statis. A chronological series would point out any change or modification that may have taken place in the intensity and severity of disease. By the aid of the information given in col. 3 prems. may easily be determined for the assu. of lives while actually sick ; but as the results in that col. do not distinguish sickness under particular diseases, a knowledge of the disease under which the patient might be suffering would be of no assistance to parties undertaking the risk ; but if particular diseases, with the sickness and mort. under each, were given in separate classes, then the results would apply to given diseases in the same manner in which the above results will apply to sickness in general, irrespective of disease. An application of cols. 1 and 3 will afford the means of measuring the exact liabilities of a F. So. ; and if the same means were available to an assu. co. of ascertaining the ratio of its members sick, the principles of determining the liabilities in those cos. would undergo an important change.

Suppose that in any particular So. containing 3647 members, equally distributed over the 20 quinquennial terms of life from 20 to 70 years of age, 1000 of those should be found on the sick list in the course of a year, and of 1000 persons found sick, 56 deaths would take place in that year ; but if in the actual result the bal. of those numbers was in any way disturbed, *that circumstance would tend to show whether the selection of lives in the So. was of a favourable or unfavourable character.*

Col. 4 of the T. represents the amount of sickness p.a. among those actually sick. From the age of 15 upwards the amount of sickness will be found to increase in a regular and uninterrupted series. At the term of life 21-25 there is 3.8518 weeks' sickness in a year to each person ; but at the term 66-70 there is 24.2217 weeks' to each person actually sick. Mr. Neison says :

Without any further inquiry on this point, the manner in which it will bear on what is called Permanent Sickness in F. Sos. is obvious. It will thus be seen that not only has advanced years a greater liability to sickness, but that once on the sick list, its duration receives a remarkable increase. It will also be further seen, that at the two terms of life 21-25 and 66-70, the relative chances of being sick are in the ratio of 220 to 468, while the mort. at the same terms of life is in the ratio of 31 to 96 among those actually sick ; and that the amount of sickness to those persons at the respective ages shows the remarkable disparity of 39 to 242.

The cares, anxieties, and suffering with which the decline of life is thus beset, appear to form a most striking contrast to the improvident carelessness with which in youth any provision for those calamities is regarded. "If any man will not work, neither shall he eat," and as "the time cometh when no man can work," it is in the summer of life that abundant provision must be made for the vicissitudes of that winter which incapacitates for labour. But how mortifying must be the disappointment which falls on the hopes of those patient contributors to F. Sos., who, after 30 or 40 years' experience, find in the decline of life, when thrown by their infirmities on those Sos. for support, no brighter prospect than the severe and harassing privations of pauperism, or the consolations of the workhouse. . . .

It must be kept in view that the results in this col., as well as those given in the whole of the same T., will be much influenced by local circumstances and peculiarity of employment ; and that it is not to be thought that they can be applied with safety to all Sos. promiscuously. Considerable experience and discrimination will always be required to determine on the due application of many of the most practical results here produced.

But Mr. Neison considered that the most curious and interesting part of the T. was col. 5, as it presented "some remarkable and novel features connected with V. Statis." A careful survey of the figures presented (he says) will show, that although, as age advances, the human constitution has a greater tendency to decay, and greater liability to sickness, *still it presents the apparent anomaly of having in advanced life a greater power of enduring sickness than in younger life ;* and yet, although there is less power to resist the approach of disease, there is a higher capability of sustaining its insidious and destroying agency. At the period of life 31-35, it will be seen that for every 116 weeks of sickness there is 1 death ; but at the term of life 66-70 there is only 1 death for 252 weeks of sickness ; or, in other words, *a greater amount of sickness is required to destroy life at advanced ages than at younger ages.* He proceeds :

This peculiar feature, which seems to have been unexpected by those giving attention to such subjects, may be explained in several ways. Many of the diseases prevalent in younger life disappear in after years ; and, in passing from the diseases peculiar to youth, other diseases ensue, which, although not so acute in their nature, are yet fatal in their results ; and thus the change from the acute to the more chronic form of disease will impart increased duration, but not severity, to the sick list of a So. Again, many fatal diseases of youth, such as consumption, and other diseases of the chest, do not to any great extent incapacitate from labour ; and in those diseases the mort. may be high while the amount of sickness is small.

Nothing like a proper enumeration of all the practical applications of the preceding T. is here contemplated ; but it may not be out of place to refer to a few of the more obvious uses to which it may be applied. In F. Sos., a correct record of the amount of sickness among the members will afford a means of predicting the number of deaths to be looked forward to, as well as the class of members among which such deaths are most to be expected. *Investigations into the affairs of a So. will also be much aided by a skilful survey of the relative amount of sickness to the deaths among the members.* Provided that, over a sufficiently long period, an unusually large amount of sickness peculiar element affected the results ; but if both sickness and mort. should show a marked augmentation beyond the calculated numbers, then such a feature might be regarded as evidence of an inferior condition of health among the members of that So. For the more important purposes of Medical

Science, the results in col. 5 are easily available. Perhaps no simpler numerical test could be offered of the efficiency of particular modes of treatment; but to apply the results here given with much success, the figures should have been classified according to the sickness and mort. of particular diseases. A portion of the elementary data will admit of such a classification; and it is intended to pub. the results on some future occasion.

Suppose a medical practitioner to have within the circle of his patients 1000 persons, whose ages vary from 21 to 70 years, and equally spread over that term of life; according to the results here given, he ought to expect 274 of them to be on the sick list during the course of a year—that they would experience 2430 weeks' sickness in the aggregate—and that there would be about 16 deaths out of that number in the same time; and presuming that he were to visit each patient every alternate day, it would produce 8505 visits in the course of a year, or about 23 visits daily. Sos. and many other public bodies adopt a practice of paying an ann. sum for medical attendance and advice; and it will thus be seen that means are available by which to calculate the probable amount of labour and time that may be required for the discharge of such engagements.

Finally;

It may at this place be again stated, that in applying the preceding results to individual classes, or in a few instances only, it should not be expected that they will in every case be confirmed. Nothing short of a refined classification is calculated to meet the peculiar aspect of all the cases presenting themselves. A review of Table V. will show the wide distinction which prevails between the ratio of Sickness in the Rural, Town, and City Districts; and in particular trades or occupations the sickness sometimes is double in amount that in other employments. In sickness therefore, as well as in mort., it is obvious that general results can be but of little practical value. Suppose it were attempted to conduct Sos. in Liverpool, or any other large city in Eng., on the same terms that would be adequate for Sos. in the Rural Districts of Kent and Essex—it is manifest that they could not be of long duration.

Here it may be also well to state, that if in any public inquiry it should be attempted to ascribe the increased amount of sickness in the Town Districts to the less healthy nature of the districts, or their peculiar local influence on health, the conclusion would certainly be fallacious. Precisely similar arguments to those made use of in reference to the mort. of those districts will explain the differences in the ratio of sickness in the same places; and it is therefore to be inferred, that whatever sanitary regulations may be carried out for promoting the health of towns, the wide distinction between the rates of sickness and mort. in particular districts will still not disappear. The cause of that difference is beyond the reach of any sanitary measure; and unless a change were to take place in the character and machinery of the manufactures of a town, by which the workmen would be habituated to less restrained but more natural and complete physical exercises, no improvement in the state of health is to be looked for.

The evils, so far as relates to health, represented to exist by some writers to so frightful an extent, and to connect themselves with inferior sewerage, filthy streets, and ill-planned houses, are certainly overstated by them. The data brought forward have generally been of the most indefinite and insufficient nature; and when, in connexion with this, the erroneous methods employed, and the promiscuous manner in which their figures are generally combined, are kept in view, it must seem surprising that the thinking and intelligent portion of the community should have given their opinions any credence, or believed their conclusions entitled to so much weight.

Perhaps no statistical facts are better established than the duration of life among the middle and upper classes of this country; and if the data brought forward in this paper be received as of sufficient merit to represent the duration of life among the working classes, it will then appear clear that any important change to be hoped for in the value of life in the Town Districts must be effected through other means than sanitary regulations.

Those persons purchasing Government Annuities, and having dealings with Assu. Cos., are certainly beyond the reach of any improvements to be introduced by local regulations; and if cleanliness of habit, comfort of dwellings, and fresh air, be of themselves powerful elements in raising the standard of life, their influence should be felt among that class of persons. But what are the actual results? The poor workmen inhabiting the miserable streets of our large towns, and inhaling their supposed noxious vapours, are actually longer lived than the affluent and upper classes, whose easy circumstances enable them to inhabit comparatively the palaces of the kingdom.

It is evident, from the great disparity in the value of life among different classes of workmen, whose conditions as to whatever is within the scope of public sanitary measures are the same, that other elements must exist having a powerful influence on the duration of life. It would further appear, by viewing the various classes of society more in connexion with the physical exercises to which they are habituated, than in connexion with their moral position and rank in society, and consequently with their sanitary condition, that a better clue will be found to the differences in the duration of life. It is not to be expected that any arrangements whatever as to the drainage and planning of streets are likely to add to the longevity of a tailor; but if it were possible to give his frame the physical exercises of a ploughman, 20 p.c. would be added to the duration of his life. Neither is it to be thought that the plumber painter and glazier is to be relieved from the poison of the metallic emanations to which he is subject; nor that the clerk can inhale the fresh air, and indulge in those exercises necessary to develop his physical constitution, while he follows the drudgeries of the counting-house. It is an aggregation of these, and other employments similarly conditioned, which make up the excessive mort. of our large towns; and since it has been shown in the preceding pages, that this class of lives is also less healthy even in the Country Districts, and that the town pop. are chiefly made up of persons following such occupations, the legitimate result to be expected is a shorter duration of life in Towns, independent of any local influence on health. If improvements and changes are to be effected in the sanitary regulations of our large towns and cities, let them at once be carried out—not upon the necessity of such municipal innovations to avert a pestilential havoc in human life—but on the true merits of the question—the comforts, conveniences, and elevation of taste and moral purity, thence arising.

While giving these obs. at length as an act of justice to the author, whose conclusions they are intended to enforce, it must not be understood that we endorse all the views he has expressed. [PUBLIC HEALTH.]

Money Values.—The remaining portion of Mr. Neison's work is devoted to T. of Money Values deduced from his own Mort. and Sickness T., with obs. and explanations. We thus have Annu. Values for F. Sos. in the Rural, Town, and City Districts of E. and W. severally; also for the Combined Districts; and for F. Sos. in Scotland. The rate of int. assumed in the calculations is 3 p.c. p.a. "In almost every other calculation extant for the purposes of F. Sos. a higher rate of int. has been adopted; but a careful investigation of the returns on this point as given in the schedules . . . has shown that in practice a higher rate of int. is not realized by F. Sos."

The Commissioners for the Reduction of the National Debt have hitherto allowed Friendly Sos. £3 16s. 0½d. p.c.; but even in the cases where this mode of investment has been taken advantage of, the difficulty of collecting all the funds at the moment they fall due, and of immediately employing them in the Gov. Stocks, together with the comparatively large bal. to the whole amount of the So.'s funds usually kept in hand to meet approaching liabilities, render it difficult to make much beyond 3 p.c. *It is intended on another occasion to pub. an account of the money transactions of those Sos.; this and some other points of interest will then be more fully entered on.*

We are reminded that "the distinguishing features of the rates of mort. in the respective Districts will of course develop themselves also in the same order or relation in the value of annuities, although not in so marked a degree, nor to the same extent as in the simple Mort. T."; for reasons which are there set forth in detail, and which are familiar to members of the actuarial profession.

It will be sufficient for our present purposes to give quinquennial abstracts of the principal T., comparing them when necessary with other T., in view of bringing out their more distinctive features.

ANNUITY VALUES (Whole-Term), 3 p.c.—FRIENDLY SOS.—Males.

Age.	ENGLAND AND WALES.				SCOTLAND.	CARLISLE.	ANSELL.	NORTH-AMPTON.
	Rural Districts.	Town Districts.	City Districts.	Rural, Town, and City Districts.	Rural, Town, and City Districts.			
10	24'616	24'274	23'431	24'357	24'108	23'512	...	20'663
15	23'581	23'216	22'373	23'304	23'004	22'582	21'514	19'657
20	22'786	22'180	21'290	22'399	22'041	21'694	20'460	18'638
25	22'015	21'058	20'153	21'488	21'117	20'665	19'353	17'814
30	21'067	19'842	19'020	20'486	20'054	19'556	18'182	16'922
35	19'927	18'533	17'763	19'249	18'834	18'433	16'951	15'938
40	18'604	17'011	16'458	17'901	17'560	17'143	15'667	14'848
45	17'085	15'401	15'115	16'402	16'090	15'863	14'321	13'692
50	15'410	13'659	13'630	14'772	14'549	14'303	12'886	12'436
55	13'669	11'856	12'013	13'068	12'861	12'408	11'382	11'150
60	11'857	10'127	10'187	11'277	11'188	10'491	9'858	9'777
65	9'970	8'386	8'455	9'482	9'624	8'917	8'306	8'304
70	8'264	6'726	6'849	7'802	8'019	7'123	6'734	6'734
75	6'887	5'739	5'307	6'459	6'445	5'512	5'199	5'199
80	5'620	4'643	3'827	5'158	4'602	4'365	3'781	3'781
85	4'659	3'213	2'617	3'995	3'446	3'229	2'620	2'620
90	3'020	1'932	1'739	2'469	2'342	2'499	1'794	1'794
95	1'362	1'245	1'230	1'294	1'298	2'757	'242	0'242
100	...	...	...	...	...	1'683	...	...

Corresponding T. are given for "Deferred Annu. to commence at age 70," and for "Temporary Annu. to continue till age 70." We do not furnish abstracts: some of their main points of difference are commented upon by Mr. Neison thus:

According to that T., at age 30 the value of a Deferred Annu. of £1 p.a. to commence 40 years hence, or on attaining age 70, is for the Rural, Town, and City Districts [combined] 1'13398; and the value of the same sum, according to Mr. Ansell's T., is only '6764. This is a most remarkable distinction, and of vital importance to F. Sos.; for although the present results for age 30 show only an excess of value in Simple or Immediate Annu. of less than 13 p.c. above those given by Mr. Ansell, yet in the Deferred Annu. at the same age there is an excess of 69 p.c. *It is under such circumstances as these, when the improvement of money at int. magnifies results, that serious blunders in the adoption of an erroneous Mort. T. will be apt to prove hurtful to the interests of a So.*

Few F. Sos. granting Deferred Annu. have yet survived long enough to suffer from the effects of so serious an error; but the above illustration points out the inevitable ruin which must overtake those Sos. at present granting Deferred Annu., as very few of them exact so favourable terms as are required by Mr. Ansell's T. A further illustration may be obtained of this question, and of how the peculiar result is produced, by reference to Table F. p. 28 [viz. T. 4. of Mort. T. (Neison) already quoted]. It will be seen that of 89,360 persons living aged 30, 42,367 attained their 70th year of age—that is to say, out of 100 entering a F. So. at 30 years of age, and purchasing Deferred Annu., 47 would be alive at 70 years of age, to be placed on the Annu. list; but Mr. Ansell's T. would provide for 33 only of such persons becoming annuitants. Or, more correctly, out of every 100 members entering those Sos. at age 30, there would be 147 annuitants unprovided for; that is to say, 45 p.c. more annuitants would have to make claims than would be calculated on by Mr. Ansell's data, and who would therefore be left destitute of any provision for old age. The melancholy spectacle which such a state of things would produce can be readily imagined.

Supposing (continues Mr. Neison) that at the present time there are only 1 million members of F. Sos. (which is much under the correct estimate) whose average age is about 30, and presuming that the terms for Deferred Annu. are graduated according to the preceding hypothesis, 470,000 of those persons would attain the age of 70, and nearly one-third would be without any provision for old age. "This is only one of the many evils connected with the present condition of F. Sos.; and although its visitation be more remote, the awful consequences of such a calamity, like every other evil of procrastination, will be irreparable."

From what has been said respecting Immediate Annu. absolute for life, and Deferred

Annu., "it must be evident that Temporary Annu. will also partake of the same relative character to the other Annu. T. referred to."

We pass on to the Life Ins. T., *i.e.* sum payable at death. "Since it has been shown that, according to the results of this inquiry, annu. are of greater value than given in many other T., it must follow that the value of assu., or sums payable at death, are of less value." An inspection of the T. here given shows that the single prem. required at age 30 to insure £100 in the *Rural Districts* is £35 14s. 6d.; in the *Town Districts* £39 5s. 11d.; in the *City Districts* £41 13s. 9d. In the 3 Districts combined £37 8s. 4d.; and in *Scotland* £38 13s. 6d. While according to the *Carlisle* T. the value would be £40 2s. 7d.; by *Mr. Ansell's* T. £44 2s. 7d.; and by the *Northampton* T. £47 16s. 0d. The *Equalized Ann. Prems.*, and the *Temporary Ann. Prems.* payable until age 70, present corresponding differences.

Finally we reach the scale of SICKNESS CONTRIBUTION, which we give in *extenso* on our next page 44; except that we cut off one decimal place of figures in each col. relating to England and Wales.

It has become obvious from the remarks already made that the prem. for a sick allowance under Mr. Neison's T. must be higher than those of former T. "As Mr. Ansell's information on this subject is the most deserving of attention, any comparison of the values will be limited to the values given at pages 133 and 134 in his interesting treatise." At age 30 the value of £1 p. week during sickness, up till attaining age 70, is £30'0958; but according to Neison's *Rural Districts* T. it is £39'7176; for *Town Districts* £46'3904; *City Districts* £40'8181; for the 3 Districts combined £43'9833; and for *Scotland* £37'0322. "These, although showing a very great difference from the values given by Mr. Ansell, are still not greater than might be expected after a careful consideration of Table V., and the remarks made in the preceding pages on that T. It has been stated that the values of annu. calculated from different Mort. T. will always show less difference than the Mort. T. themselves; but the same feature does not present itself in connexion with Sickness T. Two different T. on the plan of Table V. might indicate precisely the same ratio of sickness at each age, and yet the value of a sick allowance for the one T. might differ widely from that for the other." This is explained as follows:

In the Annu. T. two elements only affected the results—the rate of mort., and the rate of int.; but 3 elements affect the Sickness T.—the rate of mort., the rate of int., and the rate of sickness. It has been shown that the rate of mort. does not necessarily increase with an increase in the rate of sickness; and therefore two classes of the pop. may be influenced by the same, or nearly the same degree of sickness, and yet be subject to very different rates of mort. Keeping this in view—suppose there are two Sickness Tables, A and B, having the same, or nearly the same, rate of sickness at each age, but that the pop. of Table A is subject to a high rate of mort. compared to Table B—it is evident that although each individual of the same age in both T. would in the course of the same year of life experience the same degree of sickness, yet each person under Table B would be subject to a greater amount of sickness over the whole duration of his life, and for the simple reason that the *exp. of his life is greater*. Take any number of persons—say 100—on the former T. at 30 years of age, and suppose their *exp.*, or, for greater exactitude, their equation of life to be 30 years; one-half only of those lives would live to attain 60 years of age; but if on the other T. the equation of life were 40 years, one-half of the same number would not be dead till 70 years of age, a considerable portion of which would be subject to an increased ratio of sickness in the decennial period following age 60. It happens that there is an actual case in point to illustrate this hypothesis. The *Rural Districts* of E. and W., and the average results for all *Scotland*, show almost exactly the same amount of sickness in the aggregate over the whole period of 40 years, from age 30 to 70, differing by less than two-tenths of a week's sickness; the amount in the

Rural Districts of E. and W. being 121'1448 weeks.

And in the whole of *Scotland* 121'3164 "

But the equation of life for the former at age 30 will be found at p. 89 to be 40'813 years, while for the latter it is only 37'478—being a difference of 3'335 years. And therefore, although there is no greater amount of sickness in the *Rural Districts* of E. and W. than in *Scotland* generally, still the value of a sick allowance in the former is greater than in the latter. At p. 120 [see T. last given] it will be found to be at age 30 for the

Rural Districts of E. and W. £39'7176; but for

The whole of *Scotland* only £37'0322

It is therefore evident that the rate of sickness is not of itself a sufficient index to the rates of prem. that may be deducted therefrom. At p. 98 it was shown that the excess of sickness in the present results above those by Mr. Ansell was 21 p.c.; but the values for sick allowance, quoted in the preceding page, show a difference of above 31 p.c. The feature, therefore, which was characteristic of Annu. T.—of approximating nearer to equivalent values than the Mort. T. from which they were deducted—does obviously not distinguish Sick Allowance T.

But we are told there is yet another feature connected with T. of the rates of sickness which will affect their money values, independently of the rates of mort., and that is the *graduation or distribution of sickness over the various periods of life*. It might happen (says Mr. Neison) that 2 Sickness T. gave the same amount of sickness within a given period of years, but that in the one T. it was more uniformly spread over the various terms of life: not showing, as in the other T., a very low rate of sickness at the younger ages, and a very high rate at advanced ages. "This circumstance, although the rate of mort. in both the T. were the same, would occasion a difference in the value of sick allowances—and for two reasons; first, because the bulk of the sickness in the one T. was deferred until the advanced ages, those persons dying before reaching those ages would experience a minimum amount; and second, on account of the money liabilities also being deferred, the investment of the early prems. would accumulate at int. An inspection of the second abstract, given on p. 96, and the T. at p. 98 [Comparative

SICKNESS—Single Prem. 3 p. c.—Friendly Societies—Males. (Nelson.)

[Allowance £1 per Week during Sickness or Incapacity for Labour up till the age of 70.]

Ages.	ENGLAND AND WALES.				Ages.	ENGLAND AND WALES.				Ages.	ENGLAND AND WALES.				SCOTLAND.	
	Rural Districts.	Town Districts.	City Districts.	Rural Town, & City Districts.		Rural Districts.	Town Districts.	City Districts.	Rural Town, & City Districts.		Rural Districts.	Town Districts.	City Districts.	Rural Town, & City Districts.	Rural, Town, & City Districts.	Rural, Town, & City Districts.
10	30'5106	36'2297	28'2076	33'0111	27'2409	46'5629	55'5605	46'0056	49'6686	40	46'5629	55'5605	46'0056	49'6686	44'1712	
11	31'2751	36'1366	28'8175	33'6127	27'9050	47'3530	56'4838	46'5502	50'0459	41	47'3530	56'4838	46'5502	50'0459	44'0897	
12	31'8600	36'2160	29'4484	34'1364	28'5906	47'9423	57'3792	47'0907	50'5269	42	47'9423	57'3792	47'0907	50'5269	45'8673	
13	32'2909	36'4531	30'1032	34'6019	29'2782	48'6268	58'2350	48'6184	51'0877	43	48'6268	58'2350	48'6184	51'0877	46'6212	
14	32'6234	36'8086	30'7848	35'0302	29'9474	44	49'3095	48'1257	51'7035	44	49'3095	50'0406	48'1257	51'7035	47'4299	
15	32'9021	37'2480	31'4972	35'4423	30'5778	45	49'9971	48'6034	52'3490	45	49'9971	50'7839	48'6034	52'3490	48'2316	
16	33'1772	37'7358	32'2445	35'8605	31'1483	46	50'6913	49'0411	52'9972	46	50'6913	50'4511	49'0411	52'9972	49'0253	
17	33'4984	38'2362	33'0304	36'3084	31'6374	47	51'3929	49'4279	53'6200	47	51'3929	51'0319	49'4279	53'6200	41'8103	
18	33'8610	38'7476	33'8386	36'7837	32'0632	48	52'0947	49'7523	54'2125	48	52'0947	51'5315	49'7523	54'2125	50'5632	
19	34'2886	39'2701	34'6405	37'2839	32'4440	49	52'7871	50'0020	54'7687	49	52'7871	51'9558	50'0020	54'7687	51'2595	
20	34'6851	39'8023	35'4151	37'8060	32'7979	50	53'4583	50'1644	55'2822	50	53'4583	52'3115	50'1644	55'2822	51'3728	
21	35'1344	40'3431	36'1362	38'3471	33'1448	51	54'0979	50'2251	55'7468	51	54'0979	52'6059	50'2251	55'7468	52'3762	
22	35'5985	40'8914	36'7776	38'9036	33'5043	52	54'6949	50'1700	56'1559	52	54'6949	52'8448	50'1700	56'1559	52'7393	
23	36'0761	41'4552	37'3512	39'4702	33'8776	53	55'2319	49'9748	56'4966	53	55'2319	53'0280	49'9748	56'4966	52'9757	
24	36'5658	42'0412	37'8720	40'0648	34'2605	54	55'6011	49'6145	56'7540	54	55'6011	53'1549	49'6145	56'7540	53'0986	
25	37'0655	42'6591	38'3572	40'6702	34'6727	55	55'9589	48'0631	56'9128	55	55'9589	53'2242	48'0631	56'9128	53'1216	
26	37'5733	43'3187	38'9103	41'2927	35'0976	56	56'1987	48'2908	56'9576	56	56'1987	53'2354	48'2908	56'9576	53'0585	
27	38'0879	44'0262	39'3829	41'9331	35'5429	57	56'2992	46'2684	56'8694	57	56'2992	53'1856	46'2684	56'8694	52'9246	
28	38'6133	44'7778	39'8582	42'5936	36'0118	58	56'2018	45'9973	56'5929	58	56'2018	53'0973	45'9973	56'5929	52'6675	
29	39'1547	45'5679	40'3366	43'2762	36'5070	59	55'8434	44'4756	56'0085	59	55'8434	52'5837	44'4756	56'0085	52'2309	
30	39'7176	46'3904	40'8180	43'9832	37'0322	60	55'1563	42'6976	55'2326	60	55'1563	51'3542	42'6976	55'2326	51'5541	
31	40'3074	47'2394	41'3035	44'7168	37'6777	61	54'0684	40'6530	54'0153	61	54'0684	50'7106	40'6530	54'0153	50'5716	
32	41'0235	48'1081	41'8017	45'4796	38'2774	62	52'5033	38'3258	52'3422	62	52'5033	50'0451	38'3258	52'3422	49'2112	
33	41'6762	48'9958	42'3124	46'2422	38'9130	63	50'3018	35'6660	50'5734	63	50'3018	50'6660	35'6660	50'5734	47'2033	
34	42'3502	49'9010	42'8353	46'9742	39'5825	64	47'2887	32'6462	46'9877	64	47'2887	53'3606	32'6462	46'9877	44'6236	
35	43'0403	50'8225	43'3703	47'6442	40'2840	65	43'2712	29'1884	42'9421	65	43'2712	48'8889	29'1884	42'9421	40'9909	
36	43'7411	51'7592	43'8163	48'2195	41'0152	66	38'0208	25'2349	37'7051	66	38'0208	42'9809	25'2349	37'7051	36'1034	
37	44'4460	52'7090	44'3625	48'6657	41'7747	67	31'3041	21'0280	31'0280	67	31'3041	35'2687	21'0280	31'0280	29'8892	
38	45'1527	53'6649	44'9104	49'0259	42'5575	68	22'9036	15'2673	22'6996	68	22'9036	25'7204	15'2673	22'6996	21'9507	
39	45'8594	54'6179	45'4588	49'3450	43'3583	69	12'5693	8'5139	12'4624	69	12'5693	14'0700	8'5139	12'4624	12'0902	

Amount of Sickness, already given], will show that such a relation exists between Mr. Ansell's T. and the general results for this inquiry—the sickness in his T. being more uniform, and showing less disparity for the various ages; while the Highland So. T. runs almost parallel over the whole term of life, from 20 to 70 years of age, with the results for the 3 Districts.*

We turn from the Single Prem. to the Ann. Prem. T. for Sickness. The distinctions which have been observed in respect of single payments will also be found to prevail in the ann. prems. Here is the T. in complete form, except that we alter the arrangement of the cols. The rates given by the Highland So.'s T. and by Mr. Ansell's T. are also brought into comparison.

SICKNESS—Ann. Prem. (Neison, etc.)

Ages.	Rural, Town, and City Districts of		Highland So.*	Ansell's Results.	Ages.	Rural, Town, and City Districts of		Highland So.*	Ansell's Results.
	E. & W.	Scotland.				E. & W.	Scotland.		
21	1'7109	1'5011	'9666	1'3479	41	2'9628	2'7099	1'8417	2'3532
22	1'7579	1'5319	'9917	1'3760	42	3'0570	2'8191	1'9208	2'4380
23	1'7519	1'5643	'0167	1'4070	43	3'1622	2'9361	2'0042	2'5277
24	1'8444	1'5985	'0458	1'4392	44	3'2778	3'0602	2'0958	2'6226
25	1'8877	1'6348	'0708	1'4731	45	3'4030	3'1917	2'1917	2'7232
26	1'9376	1'6734	'1000	1'5087	46	3'5373	3'3308	.....	2'8300
27	1'9948	1'7147	'1333	1'5463	47	3'6797	3'4777	.....	2'9435
28	2'0456	1'7589	'1667	1'5859	48	3'8336	3'6323	.....	3'0645
29	2'1041	1'8062	'2000	1'6277	49	3'9914	3'7944	.....	3'1936
30	2'1610	1'8552	'2417	1'6718	50	4'1619	3'9639	.....	3'3318
31	2'2318	1'9158	'2750	1'7184	51	4'2435	4'1406	.....	3'4800
32	2'3016	1'9746	'3167	1'7676	52	4'5373	4'3247	.....	3'6393
33	2'3744	2'0375	'3625	1'8195	53	4'7442	4'5178	.....	3'8107
34	2'4488	2'1047	'4125	1'8743	54	4'9655	4'7223	.....	3'9958
35	2'5233	2'1762	'4583	1'9320	55	5'2028	4'9409	.....	4'1963
36	2'5963	2'2523	'5167	1'9930	56	5'4581	5'1774	.....	4'4139
37	2'6660	2'3331	'5750	2'0574	57	5'7344	5'4358	.....	4'6505
38	2'7348	2'4188	'6333	2'1254	58	6'0309	5'7163	.....	4'9085
39	2'8052	2'5099	'6958	2'1972	59	6'3473	6'0183	.....	5'1903
40	2'8801	2'6067	'7667	2'2731	60	6'7050	6'3417	.....	5'4990

* This column presumes on money bearing interest at 4 p.c. per ann., and consists of the reciprocals to the quantities given at page 236 of the Highland Society's Report. The other columns are calculated at 3 p.c., as explained in the body of the text.

By way of conclusion Mr. Neison remarks: "The preceding obs. will be sufficient to point out the leading features of the Sickness T., and to suggest the proper modes of application to the practical uses of F. Sos." He adds:

All the T. here given are meant to be illustrative of the true bearings and risks of F. Sos.; and the age of 70 has been fixed on in the present instance, and in the other T. of temporary prems., because it is an age usually adopted in calculations for F. Sos., and will therefore admit of easy comparison with the other results on the same subject.

And further:

The T. referred to are calculated on the supposition that the various payments are to be made annually; but it is well known that F. Sos. rarely make any payments at so remote periods. For strict practical purposes T. involving the consideration of annu. payable in monthly or weekly instalments would be better fitted; but as the object of this paper is to furnish data illustrative of the condition of those Sos., and of the nature and extent of the risks undertaken by them, rather than to give practical details for their guidance, further T. have not been inserted.

Some remarks which follow, upon the Odd Fellows and other Orders, have already been dealt with in our historical art. on F. Sos.

For details of the data on which these T. and conclusions were based, see F. Sos. (historical art.), close of 1845.

The following criticisms have been offered on Mr. Neison's T.:—The result of Mr. Neison's observations gives the quantity of sickness much higher than any others yet pub., and their truth, and consequent value as a safe basis for the calculation of rates of contribution for Benefit Sos., is estab. by the fact of the almost universal insolvency of all existing Sos.—*Hillman*, 1847.

Such a mass of experience has never been collected either before or since; and from the results there exhibited of the sickness in Benefit Sos., it considerably exceeds in amount the returns contained in any other statement heretofore given. But if the same presents a larger amount of sickness, the rate of mort. is more favourable than is shown to prevail in some other classes of society, and far more favourable than that which exists in the whole community.—*Ratcliffe*, 1850.

It is prob. that the large expec. of life shown by Mr. Neison's F. Sos. T. may result from the immense number of ins. which are discontinued: not, as in the case of the ins.

cos., by the healthy and prudent, but by the unhealthy and reckless; those who have fallen into bad health, bad circumstances, or bad habits.—*Higham*, 1851.

This to a great extent corroborates the results obtained by Mr. Ansell up to about the age of 60. Although the experience in this collection is stated to be extended over 1,147,143 years, it appears to contain only the experience of about 200,000 persons, during a period of 5 years in the life of each. This collection, although valuable as far as it is correct, like the preceding, in bringing a great number of facts to bear on the subject, cannot decide the law of sickness; the deductions from it, even if correct, require corroboration.—*Tomkins*, 1853.

Mr. Griffith Davies said before the Lords Committee on F. Sos. 1848: If you look at Mr. Neison's Tables concerning agricultural population, and at the ordinary Tables of human longevity, you will perceive that by the former man is made almost immortal. I am not speaking of that gentleman's calculations, but of the looseness of his data, and of the wrong conclusions to which persons may be led by such data; and I may add that the Tables of Mr. Neison in reference to agricultural populations make the value of a life annuity much too near in my opinion to the value of a perpetual annuity.

Mr. Ansell said on the same occasion: It is rather a dangerous subject to treat lightly; it is very easy to manufacture figures and statistical tables, and make them look exceedingly learned and great, without their having any intrinsic value whatever.

The Lords Committee of 1848 say in its Report: It appears, however, from Mr. Smith's evidence, that Mr. Neison's observations on the position of the Order were founded on very incorrect data, and that he has omitted many important considerations in calculating the future financial conditions of the So.

That Mr. Neison's labours attracted very wide attention was no more than was to be expected. It was understood that in 1849 the French Gov. recommended his T. for the guidance of F. Sos. in *France*; and that in 1851 the Prussian Minister at Berlin also "applied for the data with a view to its propagation in *Germany*." It may be taken for granted, we think, that but for it, the investigations of Mr. Ratcliffe and of Mr. A. G. Finlaison, both in due order to be spoken of, would not have been undertaken. Viewed from this point, the benefits resulting have been very great. As recently as 1871 (before the Royal Commission on F. Sos. 1870) attention was drawn to these T.; and it was then stated [3rd Rep. p. 223]:

The only objection that can possibly be raised [to them] is that from, say, 70 to the end of life, such a high rate of sickness is presented; but then it must be remembered that no obs. of any magnitude have as yet been made to contradict this. Any Sos. adopting the rates of contribution as derived from Mr. Neison's results will be perfectly safe, as they represent a higher per-centage of liability than any data extant, and err, if err at all, rather on the side of adopting almost too severe and stringent a view of a So.'s liabilities.—*Vide* Paper by Mr. Neison, jun.

1848.—In the evidence given before the Lords Committee of this year regarding F. Sos., and of which we have given a very full outline under this date in our preceding historical art., will be found some statements purporting to affect the credibility of the data upon which Mr. Neison had founded his conclusions; while that which Mr. Ansell had employed was correspondingly extolled. The animus which actuated these statements was ill-concealed, or rather not concealed.

1849.—Mr. Neison's evidence given before the Select Parl. Committee on F. Sos. which sat this year, and which we have quoted at some length in our historical art. on F. Sos., throws much light upon some of the preceding T. and the data on which they are based.

1850.—Mr. Henry Ratcliffe, the Corresponding Sec. of the Manchester Unity of the Independent Order of *Odd Fellows*, pub. the result of his investigations into the mort. and sickness of that numerous and important body. He says in the preface of his work: "Returns of the most ample kind for the years 1846–7–8 were required from all the Lodges composing the Unity; and thus we obtained all the information desirable to be possessed, relative to the sickness and mortality experienced by the members of the Manchester Unity. From these returns the T. in this work have been prepared." He further says: "The great object kept in view throughout the compilation of this work has been to test the correctness of the data supplied; and after the most careful investigation, and checking the results by independent and distinct means, there is every reason for placing the most implicit confidence in the accuracy of the stated rates of mort. and average sickness experienced by the members of the Unity, as given in this work. This confidence is further warranted by the fact, that the facilities possessed of comparing the present with former returns obtained from the Unity, for other purposes, confirm their accuracy in the most important particulars."

We propose to deal with this Rep. in abstract only, for there are later Rep. on the same Order, also by Mr. Ratcliffe, which will claim more detailed consideration.

The returns sent were uniform, and required to be filled up by inserting: the initials, the age, and amount of sickness, if any, experienced by each member, together with the deaths if any had occurred. And in a col. left for the purpose it was requested that there should be notified, any member who, on whatever account, was not entitled to the benefits for any portion of time over which those returns extended.

It has been explained in our historical art. on F. Sos. that the "Manchester Unity" is composed of a large number of Districts, each District being formed of a number of Lodges, varying from 1 to 84; and that the Lodges of each District have a common fund, from which an allowance is paid on the sickness or death of any member.

The returns received from the Lodges were arranged into three classes:

1. The *Rural Class*, containing all Lodges held in any township, village, or locality, the inhabitants of which numbered less than 5000.

2. The *Town Class*, including all Lodges held in any town or city, the inhabitants of which numbered less than 30,000 and more than 5000 inhabitants; and also including all Lodges held in townships bordering on large towns or cities, although they might not contain the stipulated pop.

3. The *City Class*, embracing all Lodges held in any town or city, the pop. of which numbered more than 30,000 inhabitants.

Each District of the Unity having been thus divided, each *Rural Lodge* in that District was analyzed, by extracting the number of members at each age of life, the amount of sickness for each age, and the number of deaths that had taken place. These details were then entered on a sheet prepared for that purpose. The same course was continued until the whole of the Rural Lodges were extracted; they were then entered, each Lodge separately, into a book and headed with the name of the District, the totals forming the number of rural members, at the respective ages, the amount of sickness experienced for such year of life, and the number of deaths occurring at each age for that District.

Having thus obtained the number of members of each age, of every class, and of every district, the totals were transferred into another book, and every Rural District in the same county was placed under the head of the county of which it formed a portion.

The whole of the counties were then entered under the head of *General Summary*. Such general summary included the whole of the members at each age, the amount of sickness and the number of deaths at each respective age for every county, entered separately. The same plan was adopted for *Ireland, Scotland, and Wales*; and thus was obtained the sum total of all the members in each age of life, the amount of sickness for such age, and the number of deaths for every year in which they occurred.

The *Town and County* Districts were similarly arranged, and kept separate and distinct.

We propose at present to notice the results of the *Sickness* only, so obtained; and beg especially to commend Mr. Ratcliffe's T. as being what such T. should be, when intended to convey popular instruction.

[See the Table on page 48.]

The experience of the *Town Districts* shows a less average amount of sickness than the Rural Districts at the early ages in the T., but increasing in amount, crosses the Rural Districts at age 27, and exhibits a higher amount of average sickness up to 58. It then becomes more favourable to the Town Districts; so much so that the aggregate amount of sickness experienced by the Town Districts, in passing through the period 60-70 years is only $51 \cdot 6890 = 51$ weeks 4 days 17 hours; and for the same period the Rural Districts present an aggregate of sickness experienced of $64 \cdot 3324 = 64$ weeks 2 days 5 hours. After this period has been passed, and by the time of attaining age 74, an increase in the average amount again takes place, more than equal to the decrease in the former period; but as the same occurs at a later period in life than is shown in the Rural Districts, a less number of persons would live to claim the allowance for sickness at this period of life. "The same results that occur here between the ages 60 and 70 occurred in the results of the experience of 1849 [not published], thus showing that neither additional numbers nor longer periods of time have affected the experience."

The *City Districts* present a still less average amount of sickness in the early period of the T., but the average increases with more rapidity than in the Town Districts, though quite at a regular and uniform rate, so that the average amount of sickness, at age 26, shows a larger amount than experienced in either of the districts before alluded to. Such increase continues from the very earliest to the extreme of the average given, but near the extremity decreases in the average amount in comparison with the Rural Districts.

The three districts when they become combined—exhibiting the average amount of sickness experienced in the Order—"show one uniform and accelerating rate of increase in the average amount from the first to the latest age given; and may be said to show the real average sickness experienced at each year amongst the whole community of the *Manchester Unity*, including every trade and every class, whether resident in the densely crowded city, or located in the thinly populated places of the country."

Comparative T. are next given, showing Mr. Ratcliffe's results in comparison with those of Mr. Ansell, Mr. Neison, and of the Highland So. We do not propose to reproduce these T., but shall give the results of the comparisons as briefly as may be.

In the *Rural Districts* at the early ages the results here given show less sickness than Mr. Neison showed; from 50 to 60 the M. U. show more sickness; from 70 to 80 Mr. Neison's T. exceed the sickness of the M. U. In the *City Districts* from 20 to 50 Mr. Neison's T. show more sickness than those of the Unity; but from

T. showing the Average Sickness per annum to each person experienced in Rural, Town, and City Districts, and the Three Districts combined.—RATCLIFFE.

Ages.	RURAL.				TOWN.				CITY.				RURAL, TOWN, & CITY.			
	Weeks. = w. d. h.				Weeks. = w. d. h.				Weeks. = w. d. h.				Weeks. = w. d. h.			
18	'5764	0	4	0	'5242	0	3	16	'4696	0	3	6	'5449	0	3	19
19	'5942	0	4	3	'5473	0	3	20	'4938	0	3	11	'5648	0	3	23
20	'6012	0	4	5	'5703	0	4	0	'5181	0	3	14	'5849	0	4	2
21	'6476	0	4	12	'6164	0	4	7	'5666	0	3	23	'6247	0	4	8
22	'6775	0	4	17	'6553	0	4	14	'6106	0	4	6	'6589	0	4	14
23	'7016	0	4	22	'6870	0	4	19	'6501	0	4	13	'6878	0	4	17
24	'7199	0	5	0	'7116	0	4	23	'6850	0	4	19	'7111	0	4	23
25	'7326	0	5	3	'7291	0	5	0	'7155	0	5	0	'7288	0	5	2
26	'7396	0	5	4	'7394	0	5	4	'7414	0	5	4	'7409	0	5	4
27	'7477	0	5	5	'7533	0	5	6	'7658	0	5	8	'7544	0	5	6
28	'7569	0	5	7	'7708	0	5	9	'7889	0	5	12	'7693	0	5	9
29	'7671	0	5	8	'7919	0	5	13	'8100	0	5	16	'7856	0	5	11
30	'7785	0	5	11	'8166	0	5	17	'8298	0	5	19	'8034	0	5	15
31	'7909	0	5	12	'8449	0	5	22	'8480	0	5	23	'8225	0	5	18
32	'8042	0	5	15	'8715	0	6	2	'8697	0	6	2	'8424	0	5	21
33	'8184	0	5	17	'8964	0	6	6	'8951	0	6	6	'8633	0	6	1
34	'8334	0	5	20	'9196	0	6	10	'9240	0	6	11	'8850	0	6	4
35	'8494	0	5	23	'9412	0	6	14	'9566	0	6	16	'9077	0	6	8
36	'8674	0	6	1	'9610	0	6	17	'9927	0	6	23	'9312	0	6	12
37	'8888	0	6	5	'9832	0	6	21	'10391	1	0	6	'9600	0	6	17
38	'9135	0	6	9	'10078	1	0	1	'10938	1	0	15	'9940	0	6	23
39	'9416	0	6	14	'10348	1	0	5	'11607	1	1	3	'10333	1	0	5
40	'9730	0	6	19	'10644	1	0	11	'12379	1	1	15	'10779	1	0	13
41	'10065	1	0	1	'10960	1	0	16	'13252	1	2	6	'11277	1	0	21
42	'10498	1	0	8	'11364	1	0	23	'14129	1	2	21	'11834	1	1	6
43	'11029	1	0	17	'11856	1	1	7	'15029	1	3	21	'12451	1	1	17
44	'11657	1	1	3	'12434	1	1	16	'15912	1	4	3	'13128	1	2	4
45	'12383	1	1	16	'13099	1	2	4	'16800	1	4	18	'13864	1	2	16
46	'13206	1	2	5	'13851	1	2	16	'17691	1	5	6	'14659	1	3	6
47	'14083	1	2	20	'14667	1	3	6	'18653	1	6	1	'15523	1	3	20
48	'15014	1	3	12	'15547	1	3	21	'19687	1	6	18	'16457	1	4	12
49	'15999	1	4	4	'16451	1	4	12	'20791	2	0	13	'17460	1	5	5
50	'17038	1	4	23	'17499	1	5	6	'21967	2	1	9	'18533	1	5	23
51	'18130	1	5	16	'18571	1	6	0	'23213	2	2	6	'19675	1	6	18
52	'19356	1	6	13	'19921	1	6	23	'24897	2	3	10	'21103	2	0	18
53	'20716	2	0	12	'21549	2	1	2	'27023	2	4	22	'22819	2	1	2
54	'22209	2	1	13	'23456	2	2	10	'29582	2	6	17	'24821	2	3	8
55	'23836	2	2	16	'25641	2	3	23	'32590	3	1	19	'27111	2	4	23
56	'25596	2	3	22	'28104	2	5	16	'36031	3	4	4	'29687	2	6	18
57	'28308	2	5	19	'30708	3	0	11	'39816	3	6	20	'32660	3	1	20
58	'31972	3	1	5	'33454	3	2	14	'43946	4	2	18	'36031	3	4	5
59	'36588	3	4	14	'36342	3	4	10	'48419	4	5	21	'39799	3	6	20
60	'42157	4	1	12	'39371	3	6	13	'53237	5	2	6	'43985	4	2	18
61	'48677	4	6	1	'42541	4	1	18	'5398	5	5	21	'48548	4	5	23
62	'54372	5	3	1	'45353	4	3	17	'63248	6	2	6	'52662	5	1	20
63	'59242	5	6	11	'47844	4	5	11	'67788	6	5	10	'56330	5	4	10
64	'63287	6	2	7	'49978	4	6	23	'72018	7	1	9	'59548	5	6	16
65	'66507	6	4	13	'51766	5	1	5	'75933	7	4	3	'62299	6	1	14
66	'68902	6	6	5	'53208	5	2	5	'79545	7	6	16	'64621	6	3	5
67	'73208	7	2	5	'56505	5	4	13	'85966	8	4	4	'69126	6	6	9
68	'79423	7	6	14	'61658	6	1	3	'95200	9	3	15	'75815	7	4	1
69	'87549	8	5	7	'68666	6	9	1	'107247	10	5	1	'84688	8	3	6
70	'97585	9	5	7	'77490	7	5	5	'122106	12	1	11	'95744	9	4	0
71	'109529	10	6	16	'82449	8	5	18	'139777	13	6	20	'108984	10	6	6
72	'115987	11	4	4	'100052	10	0	0	'154102	15	2	20	'120771	12	0	12
73	'116958	11	4	20	'110938	11	0	15	'165073	16	3	13	'131106	13	0	18
74	'112442	11	1	17	'126908	12	4	20	'172708	17	1	21	'139988	13	7	0
75	'102439	10	1	16	'141961	14	1	8	'176991	17	4	21	'147418	14	5	4
76	'86950	8	4	20	'158097	15	5	16	'177925	17	5	13	'153395	15	2	9
77	'90616	9	0	10	'169057	16	6	8	'180888	18	0	14	'161516	15	1	1
78	'113439	11	2	9	'174842	17	3	9	'185879	18	4	2	'171843	17	1	6
79	'155417	15	3	19	'175451	17	3	19	'192898	19	2	0	'184374	18	3	1
80	'210552	21	4	14	'170886	17	0	14	'201946	20	1	8	'199111	19	6	9
81	'296842	29	4	18	'161158	16	0	19	'213022	21	2	2	'216112	21	4	6
82	'301075	30	0	18	'153354	15	2	8	'221884	22	1	7	'229773	22	6	20
83	'405250	40	3	16	'147510	14	5	6	'228530	22	5	23	'240034	24	0	0
84	'441367	44	0	22	'143622	14	2	12	'232961	23	2	1	'246895	24	4	19
85	'457426	45	5	4	'141666	14	1	4	'235177	23	3	14	'250356	25	0	5
86	'463526	46	2	11	'139534	13	6	16	'238314	23	5	19	'253145	25	2	4

50 to 74 the M. U. exceeds Mr. Neison's results ; after this age the reverse occurs. In the *Combined Districts* a comparison shows that at each of the ages stated in the comparative T., *except age 60*, the average amount of sickness shown by Mr. Neison exceeds the sickness of the M. U.—“at the age 60 both Rural and City Districts of the Unity being subject to an increased average amount over that of Mr. Neison, in like manner affect the whole when combined, so much as to cause the results in the whole districts to exceed those of Mr. Neison, although to a very small extent.”

A comparison of Mr. Ansell's results with these of Mr. Ratcliffe show from ages 20 to 40 favourably for the Unity ; but after these ages “the excess of aggregate sickness in the Unity over that shown by Mr. Ansell's T. becomes more than the deficiency previously occurring.”

The following figures show the aggregate sickness experienced by each class, separate and combined, for the ages 20–70—also the excess in amount experienced by one over the other.

Aggregate amount of sickness :	Rural.	Town.	City.	Combined.
Mr. Neison's T.	129'6680	160'0464	132'0586	137'8187
Manchester Unity	116'5815	106'6029	141'5002	118'8185
Excess over Manchester Unity.....	13'0865	53'4435		19'0002
Excess over Mr. Neison's T.			9'4416	

It must be apparent (says Mr. Ratcliffe) that these lives will be existing under very different circumstances, and be affected by a different combination of trades. Mr. Neison's agricultural labourers form 33 p.c., and in the experience here given [Ratcliffe's] they form only 20 p.c. of the rural classes ; and if a larger per-centage of similar trades, experiencing more than the average sickness, be combined in one more than in the other class, there will appear more average sickness existing in the first than in the other class, from not having that large per-centage of those trades—other circumstances being similar.

In add. to being affected by a different combination of trades, the average sickness will vary according to *Locality* : the persons resident in *Glasgow* and *Liverpool*, for example, experience such an average amount of sickness, that by being included in the City Districts, the bulk shows an excess of aggregate sickness of 19'0002 = 19 weeks over the same class of Mr. Neison's, but by being abstracted the remaining portion shows a much less aggregate sickness than the one just named.

The fourth sec. of the work treats of the “Duration of Life, and Average Amount of Sickness of Various Trades.” Most of the facts here brought together will be more appropriately viewed under OCCUPATION, INFLUENCE OF ; but those portions relating to sickness can best be considered here.

First we have to see from what data the results were deduced ; and here Mr. Ratcliffe tells us, that on completing the previous portion of his inquiry, the whole of the “Return Sheets” from the Rural Districts were again analyzed, and from such all Gardeners and Agricultural Labourers, at each respective age, the amount of sickness experienced by them at that age, and the number of deaths occurring, were entered on sheets provided for that purpose. After the completion of the abstraction of the two classes just named, the same process was adopted for the abstraction of Labourers from Town and City Districts. The following trades were then taken, *without reference to Locality* : Bakers, Blacksmiths and Farriers, Bricklayers, Plasterers and Slaters, Butchers, Carpenters, Clerks and Schoolmasters, Coopers, Dyers, Hatters, Millwrights, Operatives employed in Cotton Mills, Miners, Plumbers, Painters and Glaziers, Potters, Letterpress Printers and Compositors, Sawyers, Domestic Servants, Shoemakers, Spinners, Stonemasons, Tailors, Weavers, Wheelwrights, and Woolcombers.

The returns were divided into counties, and sheets having been prepared for every separate trade in each county, the total of such sheets formed the gross number of Bakers, or any other trade in the county, which might have been extracted.

A book having been headed for each trade, all persons of that trade in the County of Bedford were entered under their respective age, the amount of sickness at each age, and the number of deaths occurring for that year. This course was followed with the next county, and pursued until each of the counties had been entered. The sum total then gave the number of persons at each age, the amount of sickness for such age, and the number of deaths occurring at such respective age for each trade, entered for each county. The same course was adopted for each of the trades, thus keeping not only every trade, but the persons in each county of that trade, separate and distinct from every other county. Each trade was then classified into T., with regard to Rural, Town, and City Districts. By this method the mean rate of mort., and the average amount of sickness for each mean period of life, were obtained.

Mr. Ratcliffe admits his mode of proceeding in the subsequent stages lacks strict scientific exactitude ; but says the results will “give a general idea of the sickness and mort. existing in each trade.” The following is the T., which shows the general results arrived at.

Table giving comparative view of Sickness in various periods of years from the experience of the Manchester Unity, and the various trades in that Unity: viz. aggregate of Sickness in each period of years.

	Age 20 to 30.			Age 30 to 40.			Age 40 to 50.			Age 50 to 60.					
	Weeks = w. d. h.			Weeks = w. d. h.			Weeks = w. h. d.			Weeks = w. d. h.					
Manchester Unity	7'0463	7	0	9'0428	9	0	7	13'7432	13	5	4	27'2329	27	1	1
Bakers.....	5'2569	5	19	7'0361	7	0	6	15'1195	15	0	20	27'2587	27	1	10
Blacksmiths	7'8624	7	6	8'5676	8	3	23	13'2624	13	1	20	29'9909	29	6	23
Bricklayers	6'8618	6	6	8'8554	8	6	0	12'8471	12	5	22	20'9670	20	6	17
Butchers.....	4'6825	4	4	5'4294	5	3	0	10'5192	10	3	15	17'5256	17	3	16
Cabinet-makers	7'5569	7	3	9'0781	9	0	13	10'8098	10	5	16	18'7644	18	5	9
Clerks	4'1406	4	1	6'5393	6	3	19	11'1149	11	0	15	13'8887	13	6	5
Coopers	6'0197	6	6	10'6171	10	4	8	18'8044	18	5	19	34'3332	34	2	8
Dyers	5'3085	5	2	8'7410	8	5	4	14'7541	14	5	7	31'1269	31	0	21
Hatters	5'7684	5	5	7'9460	7	6	15	15'7743	15	5	10	32'0933	32	0	16
Labourers, City	7'8339	7	5	10'7897	10	5	13	14'9163	14	6	10	27'1400	27	1	0
Do, Rural ...	7'5065	7	3	10'1360	10	0	23	14'1457	14	1	1	23'7855	23	5	12
Millwrights	6'3429	6	2	8'2138	8	1	12	13'3279	13	2	7	14'6301	14	4	10
Mill Operatives	5'6229	5	4	7'2435	7	1	17	12'0533	12	0	9	28'3358	28	2	8
Miners.....	11'2218	11	1	15'6215	15	4	8	25'5730	25	4	0	43'2810	43	1	23
Plumbers	7'4899	7	3	8'6707	8	4	17	17'7194	17	5	1	33'7294	33	3	5
Potters	8'6877	8	4	12'2366	12	1	16	24'3465	24	2	10	44'0232	44	0	4
Painters	5'3093	5	2	7'8193	7	5	18	16'4787	16	3	8	31'9852	31	6	21
Sawyers	7'0864	7	0	11'0546	11	0	9	14'2118	14	1	12	23'2466	23	1	17
Servants	5'4257	5	3	7'5761	7	4	1	10'4663	10	3	6	12'4811	12	3	9
Shoemakers	7'8701	7	6	8'0200	8	0	4	12'0175	12	0	3	22'4402	22	3	9
Spinners	6'7656	6	5	9'4789	9	6	15	18'4460	18	3	3	35'4919	35	3	11
Stonemasons.....	7'0076	7	4	11'2959	11	2	2	16'4316	16	3	1	40'1647	40	1	4
Tailors.....	7'0260	7	0	6'6825	6	4	19	12'0638	12	0	11	19'7493	19	5	6
Weavers.....	7'5967	7	4	10'5768	10	4	1	13'9304	13	6	12	31'3673	31	2	14
Wheelwrights	7'7816	7	5	9'4633	9	3	6	8'0072	8	0	1	9'4476	9	3	3
Woolcombers	10'7539	10	5	9'4271	9	3	0	16'9290	16	6	12	31'6463	31	4	13

Sec. V. treats of the mort. and sickness experienced in various localities, and is of especial interest.

We have already seen that, in analyzing the returns, the various *Localities* were kept separate and distinct. Attention is now drawn to the Rate of Mort. and Average Sickness experienced in some of the Towns and Cities—the Town and Rural Districts of Lancashire and Yorkshire, and the Rural Districts of other counties. Tables are given, showing the numbers of persons, deaths and amount of sickness in periods of years, and the mean rate of mort. and average amount of sickness during those periods.

The experience of the large towns and cities included those Lodges only which were held in the towns and cities specifically named in the T.—as Birmingham, Bolton, Bradford (Yorks), Bristol, Bury (Lanc.), Glasgow; and of the counties—Gloucester, Northampton, and Rural parts of Lancashire and Yorkshire—included Lodges held in the Rural parts of those counties. The Town Districts of Lancashire and Yorkshire included all Lodges in the Town Districts; the City Districts of Lancashire included Ashton-under-Lyne, Blackburn, Bolton, Bury, Manchester, Oldham, Preston, Rochdale, Salford, Wigan—Liverpool being purposely excluded. *Scotland and Wales* included all Lodges whatever held therein, whether in the Rural, Town, or City Districts.

Mr. Ratcliffe says hereon:

As these T. comprise a less amount of experience than the general results, it must be expected that the rate of mort. and average sickness will be more fluctuating than in a larger body; and it is surprising that the increase in the rate of mort., and average sickness, more especially in the latter, should be so regular and uniform, with the same number of lives.

It is well known by those who pay attention to the various returns pub. from time to time, how many persons are comprised in the various districts, and as a difference appears between those returns and these now-presented, it may be as well to explain that the returns here given embrace the whole of the members for 3 years, of the respective periods of life, but for one portion of the district only—as, for instance, all the members belonging to Lodges which are held in the town of Birmingham, and whose returns were received, are included therein, and the same applies to any other city or town.

The mort. results we shall leave to be spoken of in detail under LOCALITY; the sickness results we pass under review here.

The T. which we shall quote under this sec. gives the comparative sickness experienced at decennial and other periods of life, for the Rural, Town, and City Districts, and for other places named therein. At age 20, in many of the towns and cities, less average sickness is experienced than by the general class of lives; and in a few cities only does there appear an excess; *at the other periods persons resident in large cities generally experience more than the average sickness, but not invariably so.* Glasgow, Liverpool, Bristol, and Sheffield show an excess at every period; some places show an excess at one period, and others at another. [Here read the Table on the opposite page.]

It is seen by this T. that at the first period, age 20–30, persons resident in the towns of Leeds, Stockport, City and Town Districts of Lancashire, Bolton, Rochdale, Bury, North London, and Oldham, experience less, and in the towns, South of London, Birmingham, Bradford, Bristol, Liverpool, Glasgow and Sheffield, greater aggregate

T. Showing the Comparative Amount of Sickness Experienced at Different Periods of Life, in Different Districts.

	Age 20 to 30.			Age 30 to 40.			Age 40 to 50.			Age 50 to 60.			Age 20 to 50.			Age 20 to 60.		
	Weeks.	W.	D. H.	Weeks.	W.	D. H.	Weeks.	W.	D. H.	Weeks.	W.	D. H.	Weeks.	W.	D. H.	Weeks.	W.	D. H.
Rural Districts	70917	7	0 15	84861	8	3 9	123664	12	2 13	243749	24	2 15	279442	27	6 14	523191	52	2 5
Town	70251	7	0 4	92770	9	1 22	130873	13	0 14	255245	25	3 16	293394	29	2 17	549139	54	6 9
City	69520	6	6 16	96095	9	4 6	164323	16	3 0	327484	32	6 22	329038	32	6 22	657422	65	5 4
Birmingham	70599	7	0 10	88274	8	5 19	154577	15	3 4				313450	31	2 10			
Bolton	61953	6	1 9	61803	6	5 16	182331	18	1 15	337491	33	5 6	312387	31	1 16	649878	64	6 21
Bradford (Yorks)	79265	7	6 11	96844	9	4 19	151796	15	1 6	266497	26	4 13	327905	32	5 12	594402	59	3 2
Bristol	80554	8	0 9	108339	10	5 20	277264	27	5 2				406157	40	4 7			
Bury (Lanc.)	64885	6	3 10	105326	10	3 17	176028	17	4 5	303732	30	2 15	346239	34	6 6	649971	64	6 23
Glasgow	89107	8	6 9	143855	14	2 16	236009	23	4 4				468971	46	6 6			
Gloucester Rural	64444	6	3 2	77595	7	5 6	71494	7	1 1				213443	21	2 9			
Lancashire Rural	73337	7	2 8	96976	9	4 21	133198	13	2 5	247961	24	5 13	303511	30	2 11	551472	55	1 0
" Town	76648	7	4 15	96850	9	4 19	134150	13	2 22	235983	23	4 4	307048	30	5 8	543631	54	2 13
" City	61606	6	1 3	83575	8	2 12	151075	15	0 18	314490	31	3 3	296256	29	4 9	610746	61	0 12
Leeds	56331	5	4 10	92328	9	1 15	167370	16	5 3	313153	31	2 5	316029	31	4 5	629182	62	6 10
Liverpool	83030	8	2 3	113204	11	2 5	188978	18	5 15				384312	38	3 0			
South London	69783	6	6 20	89444	8	6 14	155436	15	3 19				314663	31	3 6			
North	64894	6	3 13	90441	9	0 7	160814	16	0 13	341687	34	1 4	316149	31	4 7	657836	65	5 11
Northampton Rural	67920	6	5 13	76668	7	4 5	104344	10	3 1				248332	24	5 20			
Oldham	66925	6	4 20	73477	7	2 10	154277	15	2 23				294979	29	3 6	668521	66	5 23
Rochdale	64210	6	2 22	106191	10	4 8	133708	13	2 14	265516	26	3 20	304109	30	2 21	569626	56	6 17
Scotland	81919	8	1 8	101139	10	0 19	414148	14	2 21				327206	32	5 1			
Sheffield	90848	9	0 14	100226	10	0 3	223778	22	1 15	534712	53	3 7	414852	41	3 9	949564	94	6 16
Stockport	61074	6	0 18	108771	10	6 3	142175	14	1 12	537498	53	5 6	312020	31	1 10	849518	84	6 15
Wales	76679	7	4 16	92459	9	1 17	140841	14	0 14	251016	25	0 17	309979	30	6 23	560995	56	0 16
Yorkshire Rural	70910	7	0 15	87536	8	5 6	115418	11	3 19	237982	23	5 14	273864	27	2 17	511846	51	1 7
" Town	65694	6	3 23	92189	9	1 12	129091	12	6 8	246908	24	4 20	286974	28	4 21	533882	53	2 17

sickness than the general class of City Districts. In the next period, 30-40, Bolton, Oldham, City Districts of Lancashire, South London, North London, and Leeds, experience *less*, and Bradford, Sheffield, Bury, Rochdale, Bristol, Stockport, Liverpool, and Glasgow, *more* aggregate sickness. In the period 40-50, Rochdale, Stockport, City Districts of Lancashire, Bradford, Oldham, South London, and North London, experience *less*, and Leeds, Bury, Bolton, Liverpool, Bristol, Sheffield, and Glasgow, *more* aggregate sickness. For the period 50-60, Rochdale, Bradford, Bury, Leeds, and City Districts

of Lancashire, experience *less*, and Bolton, North London, Oldham, Sheffield, and Stockport, *more* aggregate sickness. Those places not named in the last period had not sufficient experience for that period from which to ascertain the aggregate sickness.

Passing now to the last two cols.—periods 20–50 and 20–60—it is seen that Oldham, the City Districts of Lancashire, Rochdale, Stockport, Bolton, S. London, Birmingham, Leeds, N. Lond., and Bradford, experience *less*, and Bury, Liverpool, Bristol, Sheffield, and Glasgow, *more* aggregate sickness; while for the period 20–60, Rochdale, Bradford, City Districts of Lancashire, Leeds, Bury, and Bolton, experience *less*, North London an equal, and Oldham, Stockport, and Sheffield, *greater* aggregate sickness of the general class of City Districts.

If the aggregate sickness for the period 20–50 or 20–60 be noticed, *Locality does not seem to exercise that influence which appears so conspicuous from a comparison of sickness experienced by persons following different occupations.* The greatest difference of aggregate sickness experienced is 25'5528=26 weeks 3 days 20 hours—being that between the Rural Districts of Gloucestershire and the City of Glasgow; while the difference between clerks and miners for the same period (as shown by the previous T.) is 30'6215=30 weeks 4 days 8 hours. “In numerous instances also the difference of aggregate sickness experienced by persons following one employment and another far exceeds the difference appearing between one locality and another.”

The Rural Districts of the counties of Gloucester and Northampton show a less aggregate sickness for the period 20–50 than the Rural Districts of the general class—in the former by 28, and in the latter by 20 p.c. The Rural Districts of Lancashire show about 3 p.c., and the Rural Districts of Yorkshire 17 p.c. less than the general class of the Rural Districts. For the period 20–70, the Rural Districts of Lancashire show an equal, and the Rural Districts of Yorkshire 10 p.c. less aggregate sickness than the same districts of the general class.

The Rural, Town, and City Districts of *Wales* had experienced an average sickness of 7 p.c. more than the general class of all Districts combined, for the period 20–70 years. In the combination of trades, a larger number of persons following dangerous and unhealthy occupations enter into the Rural, Town, and City Districts of Wales (in comparison with the total numbers of each) than are comprised in the same districts of the general class; and this at once accounts for the increased sickness apparent in this class.

Mr. Neison gave the average sickness experienced by F. Sos. in Scot. to be—age 20, '8570=0 6 0; age 30, '8376=0 5 20; age 40, '9767=0 6 20; age 50, 1'8548=1 5 23. On reference to the average sickness experienced by the lives now under consideration, at age 20 and 50 it will be seen that these lives present a less, and at other periods a greater average sickness. The aggregate sickness experienced by the F. Sos. of *Scotland* by Mr. Neison's T. for period 20–50 is 29'8780=29 weeks 6 days 1 hour; and the aggregate of the M. U. experience for the same period is 32'7206=32 weeks 5 days 1 hour—showing an excess of 9'5 p.c. over and above the Rural, Town, and City Districts of Scotland as given by Mr. Neison.

The remainder of the work consists of T. of Annuity Values, Value of Sick Allowance, etc., etc., deduced from the preceding data; concluding with an instructive chap. upon the “Valuation of the Assets and Liabilities” of F. Sos.

A writer in the *Post Mag.* (11 Jan. 1851), reviewing Mr. Ratcliffe's T., says:

It will be observed in the above figures that the rate of sickness at the earlier and more advanced periods of life is less, according to the experience of the Odd Fellows So.; but in the middle period of life the difference is very little; and in the 10 years 56–65 the rate of sickness is higher than that derived from Mr. Neison's figures! And in reference to the differences existing between the two classes of results at the younger and older ages, there is a sufficient explanation to show that they are due to accidental causes, and do not constitute any essential feature of difference depending on physical or social conditions peculiar to either class of results. An inspection . . . will show that in the data connected with O. F. experience, the numbers observed upon after the age of 65 are much too limited to admit of any results derived therefrom being safely relied on. In the term of life 66–70, the whole experience is confined to 700 years of life, or obs. on about 233 members for a term of 3 years. Again, in the next quinquennium, the experience is limited to about 69 members only, for the same period; and in the decennial term following the whole experience does not embrace more than about 29 members—numbers obviously so small that it is impossible to place reliance on the results. On the other hand the data from which Mr. Neison's results are derived for the corresponding terms of life are upwards of 40 times the magnitude. It is therefore very much to be regretted that Mr. Ratcliffe should have allowed so very inadequate data to enter into any of the monetary T. representing the contributions to provide sickness for the whole of life; or to have employed his data even beyond the age of 65: for the monetary expressions are those most likely to be questioned and reasoned upon by the members, who may thereby be led into serious errors. Beyond the age of 65 Mr. Ansell's data included only 373 years of life; but he did not carry his monetary T. beyond the age of 70; and even up to that age he adopted sufficient means of correcting any irregularities likely to arise from the limited number immediately preceding that period of life.

There is another feature in the O. F. results for ages under 35 or 40, which requires obs. The *Manchester* Unity of O. F. is, under its present gigantic numbers, of but recent and most rapid growth. In the year 1834 the number of members was about 60,000; and in the beginning of 1846—the time to which the data now collected relates—the number of members was 251,727, being an increase during the 12 years of about 19,000 yearly; but in consequence of the dismissals from the Unity the number of new members has [really] been much greater. . . . Keeping in view therefore the immense influx of young members into the Unity, with the fact that the great bulk of the new members are under the age of 35—the average age of all the members being about 33 years—it is obvious that at the younger age, so long as such a mutation in the list of the members goes on, there

must be recorded in the books of the So.—and markedly so at the younger ages—a much less amount of sickness than the very same persons would be subject to under the usual quiet and permanence of the members of F. Sos. in general.

This remarkable fluctuation of the body of members of the Order, occasioned by the very extraordinary number of withdrawals, and the still more extraordinary augmentation of the numbers again, by the admission of new members, although greatly to be regretted, as depriving the inst. of what under happier circumstances would be its greatest recommendation—that of cultivating among its members settled habits of prudence and forethought—is, nevertheless, so long as such disturbing causes exist, calculated to reduce its liabilities very materially, and especially by recruiting the ranks with healthy and vigorous members at the younger ages, will show a diminished ratio of sickness. However, after the age 35 or 40 the effect of this selection or influence will not be so visible, or will entirely disappear.

A striking illustration of the views so expressed is observable by comparing the results of the Odd Fellows and of Mr. Neison's data between the ages 40 and 65, in which the coincidence of the two rates of sickness is certainly remarkable, considering the very different sources of data, and the different circumstances under which they were collected.

Mr. Tompkins said, regarding Mr. Ratcliffe's investigations (*Assu. Mag.* vol. iii. p. 11) :

The next, and probably the most correct and best collection of facts relating to sickness among the working classes is that received from the Manchester Unity of the Independent Order of Odd Fellows, and prepared by Mr. Ratcliffe. This confirms in a great degree the results of Mr. Neison's collection. At certain ages in each collection, the mean annual quantity of sickness differs, and the comparison points out where one, or both, must be defective.

1851.—The "Highland So." having by this time become convinced that the T. compiled under their auspices in 1824 were not to be depended upon, now formally withdrew them, and gave notice to this effect. This was an honourable course to take; but in the mean time many Sos. had adopted them.

About this date Mr. Thos. Cleghorn, then Registrar of F. Sos. in *Scotland*, made known the collective sickness experience of 67 of the F. Sos. in Scotland during the 5 years 1846–50. A reference to the comparative results so obtained will be made in regard to *English T. No. 2 (Sickness)* under date 1853.

1852.—Mr. H. Tompkins read before the Inst. of Act. a paper: *Remarks upon the Present State of Information relating to the Laws of Sickness and Mort., as exemplified in the T. of Contributions, etc., used by F. Sos.* [*Assu. Mag.* vol. iii. p. 7], wherein he says :

Allowing that a slight increase or decrease in the comparative goodness of life, or in public health, in different centuries [? countries], may be occasioned by various untoward circumstances, we think it may be assumed that the rate of "Mort." and the rate of "Sickness," speaking generally, are fixed rates. All experiences, where sufficiently extended, and under similar circumstances, will converge: and no discrepancy of any practical importance will be found to exist.

With regard to the "general rate of mort.," this point appears to have been attained; but with respect to the rates of mort. in particular sections of the community, except in a few strongly marked instances, we have only instalments of facts—and they require considerable extension before they can acquire a practical value.

Such being the case, and the Legislature having by Act 13 & 14 Vict. c. 115, and other Acts, directed the members of F. Sos. to seek the advice and assistance of actuaries in framing their "T. of contributions and allowances," we might expect to find that the data upon which such Sos. are computed would generally be similar, especially in Sos. and Clubs of a similar character.

He then compares the "T. of 6 F. Sos., each similar in character to the others, which have been prepared and certified by a different actuary in each case, and within the past 3 years," which gave the adjoining "varieties of data as regards mort.," viz :

"From such conflicting data (he adds) we cannot expect that the T. of contributions will be similar"; and he quotes instances in proof. He continues :

... We are therefore obliged to assume that the foregoing variations of data upon the same subject arise from the circumstance that while the rate of mort. for the pop. at large has been ascertained tolerably correctly; and also the rate for the lives assuring in the various Assu. Offices, which form

but a portion of the preceding, there is an excess of mort. remaining, to be apportioned either among the extreme ranks of life, to be distributed among particular localities, or to be divided among various trades, occupations, and circumstances, existing possibly among our working pop., causing the excess. . . .

T. showing the amount of Sickness experienced in passing through the following terms of life, expressed in weeks.

From Age	According to the results of		
	The "Unity," Ratcliffe.	Mr. Neison (1845).	Difference p.c.
60 to 65	27'2239	27'0894	0'49
50 „ 60	26'1073	26'6338	1'97
50 „ 65	53'3312	53'7232	0'72
45 „ 65	61'1277	62'0334	1'46
40 „ 65	67'0746	68'5131	2'08

Age.	No. out of which one will die in each year.					
	1	2	3	4	5	6
20	148	124	150	75	141	95
25	142	107	130	72	136	88
30	132	92	104	83	98	79
35	121	79	87	82	97	60
40	106	68	79	71	76	.....
45	89	59	69	66	67	.....
50	70	51	55	49	74	.....
55	52	44	41	37	55	.....
60	40	30	33	28	28	.....
65	.....	.....	.....	.....	24	.....
70	.....	.....	.....	.....	19	.....

He passes from the consideration of mort. to that of sickness, and remarks that we find but few facts collected from which to deduce facts respecting it. "The cause of this is to be found in the circumstance that no Inst. or Co. insures persons against sickness : and therefore, with the exception of F. Sos., they have no interest in recording the amount of individual sickness. The collections of facts relating to sickness are consequently few, and of comparatively small extent, being contained in only 4 collections."

The writer had overlooked the fact that the *Clergy Mutual*, the *Provident Clerks*, and the *Mutual Provident Alliance*, with some other offices, were carrying on the bus. of Health Ins. He proceeds to review very briefly the data available, viz. Ansell's, Finlaison's, Neison's, and Ratcliffe's, and adds :

Here our materials are exhausted ; and with this small quantity of data we think it is evident that a decisive Law of Sickness has not yet been obtained. The T. at present in use are merely pioneers, and will share the fate common to all first efforts to illustrate a subject hitherto enveloped in obscurity. An immense amount of experience as regards the duration of sickness must accumulate now that attention has been so generally drawn to the subject ; and from it T. will be made that will supersede many of those now in use. It must be allowed, however, that up to about the middle of life the data tolerably coincide. *Any T. of Contributions from 20 years of age to 50 would not, perhaps, show any great discrepancies* ; but the experience of the advanced ages differs so widely that they constitute an element of discord throughout the whole T. . . .

On the whole we think Mr. Tompkins very much underrated what had already been done, and expected far too much in the future. We consider Neison's and Ratcliffe's collections of F. Sos. data among the most valuable contributions ever made to V. Statis. We have seen in our historical art. on F. Sos. that the editors of the *Assu. Mag.* stated that they could not assent to many of Mr. Tompkins' conclusions.

France.—M. Hubbard pub. in Paris : *Mémoire sur l'Histoire et l'Organisation des Sociétés de Secours Mutuels*, wherein he makes known the results of the investigation into the mort. and sickness of certain of the F. Sos. of France ; which investigation originated at the instance of the *Comité pour la Propagation des Sociétés de Prévoyance*, under the circumstances we have already stated in detail under FRANCE, sub-heading *F. Sos.*, date 1849.

The mode adopted by the Committee named was, to send to the delegates of the F. Sos. in Paris, and in the Departments of France, where the location of the Sos. was known, 2 schedules, with a circular of instructions. These were sent out in March, 1850. The first schedule was almost exactly the same as that used for the English Sos. in 1829—only instead of restricting the returns to 5 years, the man. were left to fill in as many as they pleased. It required a return of the money payments for the days of "Sickness" and "Infirmary"; and the date when the members practically left the So. by the methods (1) of withdrawal, (2) expulsion, (3) by becoming entitled to retiring pensions. The second schedule required the leading facts regarding each So. from its commencement ; together with the statutes or other rules of the So.

Out of 150 Sos. addressed, but 25 responded to the appeal ; but some gave their experience over a period of 30 years. The total obs. extended to a period of 44,069 years of life. During the periods embraced in the obs., the Sos. reporting had paid in the aggregate 453,222f. (£18,129) for 257,478 days of "Sickness," and 46,755f. (£1870) for 102,979 days of "Infirmary." During that time they had admitted 3319 new members, and had lost by deaths 590, and by withdrawals 1898 members.

The F. Sos. in France do not usually admit members until after they have satisfied the law of conscription. And as almost all the Sos. grant retiring pensions commencing at 65 years of age, the experience obtained ranged mostly from 21 to 65 years. In a few cases the obs. extended to age 70.

Having collected the facts stated, it was thought sufficient to combine them in periods of 5 years—age 21-25 ; 26-31, etc. Thus :

TABLE I.—*Showing, in Quinquennial Periods of Age, the Returns of Sickness and Mort. in 25 Sos. de Secours Mutuels of France :*

1 Ages.	2 Admissions.	3 Years observed.	4 Days of Sickness.	5 Payments for ditto.	6 Deaths.	7 With- drawals.	8 Days of Infirmary.	9 Payments for ditto.
20 & under	62	115	290	£ 14'14	3	14	..	£
20 to 25	540	1755	7,201	470'04	12	160	500	4'13
25 ,, 30	741	4085	19,090	1329'81	27	267	1,643	23'67
30 ,, 35	904	6650	28,329	1986'36	57	354	2,781	47'17
35 ,, 40	758	8366	40,832	2907'77	64	357	4,564	78'94
40 ,, 45	190	7365	44,438	3169'98	64	230	14,151	236'50
45 ,, 50	11	5593	35,466	2517'02	86	88	11,169	193'18
50 ,, 55	■	3702	23,507	1570'02	60	55	9,883	164'06
55 ,, 60	...	2427	21,290	1479'46	49	44	6,875	124'74
60 ,, 65	...	1409	15,116	994'13	41	78	11,592	209'44
65 ,, 70	...	544	5,677	418'92	29	20	8,751	191'27
70 ,, 75	...	147	1,774	128'45	19	11	7,570	91'16
unknown	111	1911	14,468	1142'77	79	220	23,500	505'97
Totals	3319	44,069	257,478	18128'87	590	1898	102,979	1870'23

TABLE II.—*Corrected T. of the Rates of Sickness and Mort. in the French F. Sos.*

Ages.	Years of Observations.	Days of Sickness and Infirmary.	Rate of Sickness.	Deaths.	Rate of Mort. per cent.
20 & under	77	290	3'76	3	3'89
20 to 25	1405	7,265	5'17	12	'85
25 „ 30	3581	19,430	5'42	27	'75
30 „ 35	6021	28,991	4'81	57	'94
35 „ 40	7809	41,936	5'37	64	'82
40 „ 45	7155	47,763	6'67	64	'89
45 „ 50	5540	38,191	6'88	86	1'55
50 „ 55	3674	25,958	7'07	60	1'62
55 „ 60	2405	23,105	9'61	49	2'00
60 „ 65	1370	18,304	13'36	41	2'99
65 „ 70	534	8,267	15'48	29	5'43
70 „ 75	1415	3,031	21'34	19	13'42
Unknown	...	20,883	11'97	79	4'53
All Ages	41,460	...	6'85	590	1'42

TABLE III.—*Showing the Decrements of Life, the Rate of Mort., and the Mean Days of Sickness, and the Mean Duration of Life at each age, by the Exp. of the French F. Sos.*

Age.	Living.	Deaths.	Mort. p.c.	Mean Days of Sickness for each Life.	Mean Duration of Life (Expec.)	Age.	Living.	Deaths.	Mort. p.c.	Mean Days of Sickness for each Life.	Mean Duration of Life (Expec.)
21	10,000	90	'90	4'072	41'83	58	6,656	120	1'80	9'500	15'70
22	9,910	83	'84	4'604	41'21	59	6,536	141	2'16	10'748	14'98
23	9,827	79	'80	5'000	40'55	60	6,395	155	2'42	11'724	14'30
24	9,748	76	'78	5'276	39'88	61	6,240	163	2'62	12'476	13'64
25	9,672	74	'77	5'448	39'19	62	6,077	170	2'80	13'052	12'99
26	9,598	74	'77	5'532	38'49	63	5,907	177	3'00	13'500	12'35
27	9,524	77	'78	5'544	37'77	64	5,730	195	3'35	14'172	11'72
28	9,447	76	'80	5'500	37'08	65	5,535	212	3'76	14'736	11'12
29	9,371	81	'86	5'296	36'38	66	5,323	229	4'23	15'164	10'54
30	9,290	83	'89	5'148	35'69	67	5,094	247	4'77	15'428	9'99
31	9,207	83	'90	5'052	35'01	68	4,847	267	5'40	15'500	9'47
32	9,124	83	'91	5'004	34'32	69	4,580	300	6'41	16'188	8'99
33	9,041	81	'90	5'000	33'63	70	4,280	283	6'62	17'084	8'59
34	8,960	79	'88	5'012	32'93	71	3,997	275	6'87	18'236	8'17
35	8,881	76	'86	5'076	32'22	72	3,722	275	7'38	19'692	7'73
36	8,805	74	'84	5'184	31'49	73	3,447	274	7'96	21'500	7'31
37	8,731	71	'81	5'328	30'76	74	3,173	275	8'65	.....	6'90
38	8,660	69	'80	5'500	29'99	75	2,898	261	9'00	.....	6'50
39	8,591	60	'70	5'740	29'24	76	2,637	261	9'89	.....	6'10
40	8,531	58	'68	5'960	28'44	77	2,376	261	10'98	.....	5'71
41	8,473	61	'72	6'160	27'63	78	2,115	247	11'68	.....	5'36
42	8,412	66	'79	6'340	26'82	79	1,868	247	13'23	.....	5'00
43	8,346	75	'90	6'500	26'04	80	1,621	233	14'40	.....	4'69
44	8,271	94	1'14	6'784	25'27	81	1,388	220	15'84	.....	4'39
45	8,177	108	1'32	6'952	24'56	82	1,168	192	16'47	.....	4'12
46	8,069	117	1'45	7'028	23'88	83	976	165	16'90	.....	3'84
47	7,952	122	1'54	7'036	23'22	84	811	151	18'64	.....	3'52
48	7,830	125	1'60	7'000	22'57	85	660	137	20'83	.....	3'21
49	7,705	125	1'62	6'752	21'93	86	523	124	23'68	.....	2'92
50	7,580	124	1'63	6'636	21'29	87	399	96	24'13	.....	2'67
51	7,456	121	1'62	6'644	20'63	88	303	83	27'27	.....	2'36
52	7,335	118	1'61	6'768	19'96	89	220	69	31'26	.....	2'06
53	7,217	115	1'60	7'000	19'28	90	151	55	36'36	.....	1'77
54	7,102	111	1'57	7'212	18'58	91	96	41	42'85	.....	1'50
55	6,991	110	1'57	7'596	17'87	92	55	27	50'00	.....	1'25
56	6,881	111	1'61	8'124	17'15	93	28	14	50'00	.....	1'00
57	6,770	114	1'69	8'768	16'43	94	14	14	100'00	.....	.....

Attention is called by M. Hubbard to the error which had occurred in all the Eng. T. relating to F. Sos. exp. at that time—except Mr. Finlaison's—of confounding claims for superannuation with claims for sickness. Cols. 8 and 9 of the preceding Table I. (on p. 54)

are intended to allow of this correction being made—the word “infirmity” having the same meaning as “superannuation”—though more expressive of the truth, as some such cases are found at comparatively young ages. Taking, then, the proportion of payments for a measure, M. Hubbard deduces from the days of “sickness” the number of days which would correspond with the same amount of payment for “Sickness” as is made for “Infirmity.” Thus the average payment for each day of sickness on the total obs. is 1'76f., and for infirmity 0'45f.—the former being to the latter as 1 to '258: about 4 days of “infirmity” may therefore be counted as 1 day of sickness. He consequently adds 26,568 days’ “infirmity” to the days of “sickness,” making the total of obs. 284,046 days; and deducting from the total years of life half the number who entered and withdrew, he finds 6'85 as the average number of days of sickness p. year. But it has been pointed out that as this average results from money payments made by Sos., *it would not exactly represent the average of sickness in a community*: as in most cases some days of sickness would elapse before relief would be absolutely granted. M. Hubbard thinks that as much as 5 days should be added for every case of sickness observed. Mr. S. Brown thought this rather a large proportion.

After the correction made as above suggested, the following T. gives the summary of results in quinquennial periods of age. (See *ante*, Table II. on page 55.)

Finally M. Hubbard produced two further T. computed for each age (by the method of third differences), from which Mr. Samuel Brown deduced the following. (See *ante*, T. III. on page 55.)

We have already given some general details regarding M. Hubbard’s investigations in our historical art. on F. Sos. under this date. See also FRANCE, sub-heading *F. Sos.*

1853.—Dr. Farr this year developed and pub. his *English Life* T. No. 2; and therefrom he deduced, on the hypothesis “that the number of persons constantly sick is equal to twice the ann. mort.”—and in the adoption of which he had evidently been guided by the investigations of Mr. Finlaison, Mr. Neison, and Mr. Griffith Davies—the following important T. of values of sickness benefits.

It requires to be explained that in this art. we have heretofore included no T. which has not been deduced from the actual experience of F. Sos. in a direct form. This T. is based upon the mort. experience of the whole pop. of E. and W.; while the sickness actually experienced, as determined by the best known obs. on F. Sos. (combined with some other sources in Mr. Finlaison’s case), suggested the base of the hypothesis applied. This understood, and the importance of the addition of these T. is at once seen. (See T. on opposite page.) The explanation of the cols. is as follows:

1. By this col. a man of 20 who, for the year after that age, pays a prem. of 1s. p. week, would be entitled to sick pay of 61'4881 shillings weekly; while 1d. p. week would entitle him to 61'4881 pence of sick pay weekly.

2. For £1 in the year a person aged 15 would be entitled to £1'947 for every year of sickness which he experienced under the age of 65; for £12 (or £1 the month) for that year he would obtain £1'947 a month in sickness; for £52 10s. (or £1 p. week) during the single year, he would be entitled to £1'947 for every week of sickness experienced between the ages 15–65.

3. A man of 18 who pays 6d. a week from that age to 65, is entitled to 40'172 sixpences, or 20'086 shillings weekly (£1'0043) for every week of severe illness between the ages of 18–65. The prem. is of course discontinued at his death in the event of its taking place before the age of 65 is attained.

4. A man of 20 who pays £'0163, or 4d. a week for a year, will be entitled to £1 for every week of severe sickness he experiences during the year.

5. A man aged 20, by paying down £53'326, is entitled to pay at the rate of £100 a year for each year of sickness, or a proportional amount for any period of sickness less than a year.

6. This col. may be read thus: A man of the age of 18 who pays £'0249, or 6d. a week from that age until he is 65, will be entitled to £1 a week during every week of severe sickness that he experiences during the period of life 18–65. The same sick pay, £1 a week, is provided up to the age of 65 by £'0504, or a shilling weekly from the age of 49.

These rates are not “loaded” for expenses of man., therefore some add. would be required to them, say 10 or 12½ p.c. If this were not expended, it would aid in forming a guarantee fund against contingencies.

From the preceding T. other combinations of benefits may be constructed suitable to the varied circumstances of different classes. Adjoining is an illustration.

The T. may be read thus: A person of the age of 22, or any age above that up to 36, insures for a prem. of 2d. a week, sick pay at the rate of 7s. 6d. for every week of sickness, or of 1s. 3d. for every day of sickness, except Sunday.

Weekly prem. to ins. pay in Sickness at the rate of 7s. 6d. a week.

Age.	Prem.
15 and under 22	1½d.
22 ” 36	2
36 ” 44	2½
44 ” 49	3
49 ” 53	3½
53 ” 57	4
57 ” 58	4½
58	5
59	5½
60	6
61	6½
62	7
63	7½
64	8

Sickness T., derived from English T. No. 2 (1853)—FARR.

Age.	The number of Pounds, Shillings or Pence p. Week of Sickness which a prem. of £1, 1s., or 1d., a Week will provide over a single Year.	Sum for every Year of Sickness exp. between any given age and 65, which £1 paid continuously from any given age will provide.	The number of Pounds, Shillings or Pence p. Week of Sickness provided by £1, 1s., or 1d. p. Week of prem. from any given age to 65.	The Weekly Prem. which if paid for a Year will Provide £1 for every Week of Sickness in the Year.	Single Prem. which if paid at any given age will provide £1 for every Year of Sickness exp. between that age and 65.	The Weekly Prem. which if paid from any given age to 65 will provide £1 for every Week of Sickness exp. from that age to 65.
	1	2	3	4	5	6
15	100'3525	1'9469	43'207	'009,965	'50489	'023,144
16	87'9163	1'9174	42'076	'011,374	'51250	'023,766
17	75'2681	1'8913	41'054	'013,286	'51931	'024,358
18	65'6736	1'8702	40'172	'015,227	'52492	'024,894
19	62'5949	1'8545	39'425	'015,976	'52928	'025,366
20	61'4881	1'8405	38'717	'016,263	'53326	'025,828
21	60'4177	1'8270	38'015	'016,551	'53716	'026,306
22	59'3755	1'8139	37'316	'016,842	'54101	'026,798
23	58'3453	1'8012	36'621	'017,139	'54478	'027,308
24	57'3310	1'7889	35'929	'017,443	'54848	'027,832
25	56'3182	1'7770	35'240	'017,756	'55210	'028,378
26	55'3015	1'7656	34'553	'018,083	'55563	'028,942
27	54'2743	1'7546	33'868	'018,425	'55906	'029,526
28	53'2362	1'7441	33'187	'018,748	'56238	'030,132
29	52'1799	1'7342	32'508	'019,164	'56556	'030,762
30	51'1043	1'7247	31'831	'019,568	'56859	'031,416
31	50'0117	1'7159	31'158	'019,995	'57145	'032,094
32	48'8984	1'7078	30'488	'020,451	'57411	'032,800
33	47'7627	1'7004	29'822	'020,937	'57654	'033,532
34	46'6125	1'6937	29'160	'021,453	'57872	'034,294
35	45'4350	1'6880	28'502	'022,009	'58062	'035,086
36	44'2471	1'6832	27'848	'022,600	'58219	'035,910
37	43'0438	1'6794	27'200	'023,232	'58340	'036,766
38	41'8290	1'6768	26'557	'023,907	'58421	'037,656
39	40'6099	1'6755	25'919	'024,625	'58456	'038,582
40	39'3826	1'6757	25'287	'025,392	'58441	'039,548
41	38'1561	1'6774	24'660	'026,208	'58369	'040,552
42	36'9301	1'6809	24'040	'027,078	'58236	'041,598
43	35'7124	1'6863	23'425	'028,001	'58033	'042,690
44	34'5012	1'6941	22'816	'028,984	'57755	'043,830
45	33'3059	1'7043	22'212	'030,025	'57392	'045,020
46	32'1250	1'7175	21'614	'031,128	'56937	'046,266
47	30'9613	1'7339	21'021	'032,298	'56381	'047,574
48	29'8201	1'7542	20'431	'033,534	'55713	'048,946
49	28'7021	1'7789	19'844	'034,841	'54922	'050,394
50	27'6099	1'8087	19'259	'036,219	'53996	'051,926
51	26'5439	1'8448	18'673	'037,673	'52922	'053,554
52	25'5082	1'8882	18'083	'039,203	'50686	'055,294
53	24'5032	1'9405	17'492	'040,811	'50272	'057,170
54	23'5299	2'0039	16'889	'042,499	'48663	'059,212
55	22'5920	2'0810	16'271	'044,263	'46839	'061,462
56	21'3925	2'1757	15'629	'046,745	'44780	'063,984
57	19'5113	2'2945	14'977	'051,252	'42413	'066,772
58	17'9218	2'4579	14'372	'055,798	'39549	'069,578
59	16'5425	2'6864	13'808	'060,450	'36144	'072,422
60	15'3204	3'1074	13'278	'065,272	'32140	'075,314
61	14'2186	3'5265	12'770	'070,330	'27466	'078,266
62	13'2113	4'3898	12'302	'075,693	'22035	'081,292
63	12'2813	6'1369	11'849	'081,425	'15740	'084,398
64	11'4166	11'4166	11'417	'087,592	'08448	'087,592
65	...	...	...	...	...	...

The following T. shows the *number of pence* which a prem. of 1d. p. week will provide for every week of sickness.

Age.	Weekly Sick Pay in Pence.	Age.	Weekly Sick Pay in Pence.	Age.	Weekly Sick Pay in Pence.	Age.	Weekly Sick Pay in Pence.	Age.	Weekly Sick Pay in Pence.
	<i>d.</i>		<i>d.</i>		<i>d.</i>		<i>d.</i>		<i>d.</i>
20	61	29	52	38	41	47	30	56	21
21	60	30	51	39	40	48	29	57	19
22	59	31	50	40	39	49	28	58	17
23	58	32	48	41	38	50	27	59	16
24	57	33	47	42	36	51	26	60	15
25	56	34	46	43	35	52	25	61	14
26	55	35	45	44	34	53	24	62	13
27	54	36	44	45	33	54	23	63	12
28	53	37	43	46	32	55	22	64	11

But by far the most valuable of Dr. Farr's T. appears to us to be the following :

T. showing the Sick pay which the number of Ann. Prems. in col. 1 will provide, irrespective of any further payments.

No. of Ann. Prems.	Age at which the Ins. commences.											
	15			20			25			30		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
1	0	1	11	0	1	10	0	1	9	0	1	9
2	0	3	10	0	3	8	0	3	7	0	3	5
3	0	5	9	0	5	6	0	5	4	0	5	1
4	0	7	8	0	7	3	0	7	0	0	6	10
5	0	9	6	0	9	1	0	8	9	0	8	7
6	0	11	4	0	10	10	0	10	3	0	10	1
7	0	13	2	0	12	7	0	12	3	0	11	11
8	0	15	0	0	14	4	0	13	11	0	13	7
9	0	16	9	0	16	1	0	15	7	0	15	1
10	0	18	7	0	17	10	0	17	4	0	16	11
11	1	0	4	0	19	7	0	19	0	0	18	7
12	1	2	1	1	1	3	1	0	8	1	0	4
13	1	3	10	1	3	0	1	2	4	1	2	0
14	1	5	7	1	4	8	1	4	1	1	3	8
15	1	7	4	1	6	5	1	5	9	1	5	4
16	1	9	1	1	8	1	1	7	5	1	7	1
17	1	10	9	1	9	9	1	9	1	1	8	9
18	1	12	6	1	11	5	1	10	9	1	10	6
19	1	14	2	1	13	1	1	12	5	1	12	3
20	1	15	10	1	14	10	1	14	1	1	14	1
21	1	17	7	1	16	6	1	15	10	1	15	10

The working of this T. (which is based upon *English T. No. 2*, with 3 p.c. int.) deserves especial consideration and commendation. Thus, if a man aged 15 engages to pay 1s. at the beginning of each week for one year, he can insure 1s. 11d. during every week of sickness experienced by him from the beginning of that year up to the age of 65. If he continues paying 1s. a week for 2 years, he will be entitled to 3s. 10d. for every week of sickness experienced by him from the beginning of the 2nd year.

The T. further shows the amounts which can be insured at any of the ages specified by continuing the payments for any number of years up to 21—thus 1s. p. week paid for 12 years would provide weekly sums during sickness ranging from £1 0s. 4d. to £1 4s. 2d., according to the age of the man at the time he commenced paying.

If the member failed to express the number of years he intended to pay at the commencement of the contract, he would be liable to be re-examined at the commencement of every new year; and the So. would have the power of rejecting him as to any future payments on his showing any signs of breaking health.

Ann. or other payments in advance can be substituted for the weekly ones proposed. Take the case of a male servant, aged 20, paying 13s. at the commencement of every quarter (*i.e.* 1s. p. week in advance) for 5 years, without the payment of any further prem. from the 5 years inclusive, he becomes entitled to 9s. 1d. a week for every week of sickness he will experience for the next 40 years, or until he attain 65, when it is supposed he will have made provision for his permanent support by means of a deferred annu.—which he might commence to subscribe for after the termination of his sickness payments at age 25.

The following T. shows the *monthly prem. required to secure £1 a week in sickness*, by the *English Life T. No. 2* (on the hypothesis already stated) at the following ages, compared with the like rates deduced from several other T.

The T. is read thus: 2s. 6d. a month, commenced at age 25 and continued to age 60 by the *English Life T. No. 2* will provide £1 for every week of sickness experienced between the ages 25 and 60.

Ages.	English Life (and Sickness) T. No. 2.	Mr. Finlaison's (Sickness) T.	Mr. Neison's (Sickness) T.	Mr. Davies' (Sickness) T.
	s. d.	s. d.	s. d.	s. d.
15	2 0	2 1	2 1	2 0
20	2 3	2 5	2 3	2 1
25	2 6	2 8	2 6	2 2
30	2 9	2 11	2 10	2 4
35	3 1	3 4	3 2	2 6
40	3 5	3 10	3 9	2 9
45	3 11	4 6	4 4	2 11
50	4 6	5 4	5 2	3 3
55	5 4	...	6 3	4 0
60	6 7	...	7 5	...

The adjoining T. shows some of the results deduced from the *English Life T. No. 2* (Sickness) as contrasted with the results of the experience of Scottish F. Sos. under two sets of obs.:

This T. may be read thus: A man aged 23, who for the year after that age pays a prem. of 1d. p. week, would be entitled to sick pay during sickness of 58'345 pence (say 4s. 10d.) weekly by col. 1; to 59'390 pence (say 4s. 11d.) by col. 2; and to 71'607 pence (say 6s.) by col. 3. It will be observed that while the results by the Scottish T. are larger in the earlier ages, than in the English T., the reverse is the case at the later ages.

Number of Pounds, Shillings, or Pence which a prem. of £1, 1s., or 1d. a week will provide over a single year.

Age.	English Life T. No. 2 (Sickness). (1)	Scottish F. Sos. before 1845 (Neison). (2)	By 67 Scottish Sos. 1846-50 (Cleghorn). (3)
18	65'674	61'920	69'648
23	58'345	59'390	71'607
28	53'230	61'381	70'390
33	47'763	63'712	58'010
38	41'829	57'127	54'269
43	35'712	48'689	46'226
48	29'820	34'543	29'073
53	24'503	22'007	17'692
58	17'922	16'658	14'836
63	12'281	10'118	8'519

Those who desire further details

regarding these T. should consult 12th Rep. of Reg.-Gen., Appendix.

There was printed (1853) in the shape of a Parl. paper: *Copy of a Rep. and T. prepared under the Directions of the Lords of the Treasury, by the Actuary of the National Debt Office, on the subject of Sickness and Mort. among the Members of F. Sos., as shown by the Quinquennial Returns to 31 Dec. 1850, received by the Regis. of F. Sos. in England, under the provisions of the Act 9 & 10 Vict. c. 27; wherein Mr. A. G. Finlaison, the compiler, says by way of preface:*

In accordance with your instructions, I have the honour to submit a Rep. accompanied by numerous abstracts, framed from a digest of the Quinquennial Returns of Sickness and Mort. lately collected by the Registrar of F. Sos. in Eng.

I beg to state, however, in explanation of the succinct nature of the present paper, that the information in question is of such an extent, and of a description so varied—and therefore has unavoidably consumed so much time in its present arrangement—that I can do little more before the approaching and almost immediate close of the Session of Parl. than give a brief analysis of the data now placed before you. I must therefore crave permission to treat the subject with that more ample justice which is due to its importance, on the occasion which is yet to occur in the fulfilment of my duties, when such of the present tabulated results as are susceptible of the process have to be converted into their pecuniary equivalents. In the mean time I hope, with the greatest deference, that it will be considered that I have fully complied with the essential portion of my instructions, by producing the classification and subjoined tabulation of the valuable matter which forms the subject of the present Rep.

We are then informed of the processes by which the data for the Rep. now under review had been brought together.

In the month of May, 1850, the Regis. of F. Sos. in E. and W. issued, in pursuance of the provisions of the Act of 1846, a form of Returns (or Schedule) to be made by F. Sos.—which form had previously received the approval of several actuaries well known to be conversant with the working of F. Sos.—which required the following information, to which the name and date and place of the estab. of the So. were preliminary. 1. The initials of the member's name. 2. The member's occupation. 3. Age at time of admission into the So. 4. Date of admission. 5. The time (in weeks and days) of receiving relief on account of sickness. 6. Date when placed on superannuation fund. 7. Date of death. 8. Date of exclusion. 9. Date of leaving. 10. Name of disease or cause of death. 11. Place of residence at time of death. 12. Final col. for remarks. These schedules were accompanied with a circular recommending the utmost exactitude in the return of the information, for the reception of which they were prepared.

These forms of Return were only sent to Sos. certified between 1828 and 1847—of which the total number had been about 16,000, including 5520 certified between 8 July 1847 and 23rd Nov. 1852; while the specific data required were the rate of sickness and mort. experienced by each So. during the 5 years ending 31 Dec. 1850. Only 10,433 Returns were sent out, and of these there were received filled up 4291, relating to Sos. having 781,722 members; and which had received from such members in the 5 years £693,751; and had paid to members during the same period £518,978. An abstract of the results of these Returns was laid before Parl. in 1852.

We have already recorded in our historical art. on F. Sos., that the data so collected was placed at the disposal of the Inst. of Actuaries; but that body had not responded with the avidity which had been contemplated, and so other measures were taken, as will appear in the following paragraphs:

The Regis. of F. Sos. in Eng. in bringing under the notice of the Lords of the Treasury the fact of his being in possession of a considerable number of Returns of Sickness and Mort., then proposed to their Lordships that T. should be computed from these documents, under the provisions of the 2nd sec. of the Act 15 & 16 Vict. c. 65 [1852]. In making this proposal for "Tabulating the Returns," the Regis. after citing certain clauses in support of his views from the Acts 10 Geo. IV. c. 56 [1820] and 13 & 14 Vict. c. 115 [1850], adduced as a consideration: "that such a proceeding is in conformity with the spirit of all the Acts of Parl. passed in relation to F. Sos.; the Legis. having regarded the correct calculation of T. of payments and allowances dependent on the duration of sickness and the prob. of human life as an object which it is desirable should be attained. Also, that however extended the information extant on general statistics may be, *the true data for F. Sos. can only be ascertained from the facts supplied by the experience of such Sos.* And thirdly, that the want of more satisfactory data for the computation of the T. had been felt by the officers, members, and others interested in F. Sos."

Then, after introducing his correspondence with the Inst. of Act., the Registrar requested their Lordships to sanction the incurring of expenses for the computation of T. under the 2nd sec. of c. 65 of the 15 & 16 Vict. [1852]. Such computation to be carried out by the Council of the Inst. of Act., and upon such terms and in such manner as detailed in their letter.

My Lords having had under their consideration this Rep. and proposal of the Registrar, caused (28 Oct. 1852) a minute to be made of this circumstance; and after referring at the same time to the stat. in which the correct calculation of T. for the assistance of F. Sos. is stated to be desirable; and also noticing the substance of the correspondence between the Registrar of F. Sos. and the Council of the Inst. of Act., proceeded to recognize the principle involved in the clauses of the Acts alluded to, and the manifest importance in the interest of F. Sos. that every pains should be taken to place at their disposal the most ample and correct information. *In this view it appeared to my Lords that they would be justified in sanctioning the expense which must necessarily be incurred in forming such T. from the Returns made to the Registrar. They did not doubt that the utmost pains and care would have been taken by the Inst. of Act. in directing and superintending the use of the data afforded in these Returns for the formation of correct T.; but it nevertheless appeared to them that in a matter of this kind, it would upon the whole be better that the work should be undertaken by that department of the Gov. which is more immediately in connexion with F. Sos., and on the estab. of which department there is employed an officer specially conversant with such matters. Before, however, giving final directions thereupon, they desired that the papers and a copy of their minute should be transmitted to the Commissioners for the Reduction of the National Debt; and that they might be requested to state whether they could make provision under their superintendence, and that of their officers, assisted by the Regis. of F. Sos., for preparing T. from the Returns collected by that officer, and if so that they would state the principles on which they would recommend such T. to be prepared, when my Lords would issue such further instructions as might appear to be necessary.*

It was then referred to the undersigned, in his capacity of Actuary to the Commissioners for the Reduction of the National Debt, to enunciate the principles upon which it should be proposed to deal with the returns. Accordingly in a rep. addressed on the 30 Oct. 1852 to the Comptroller-Gen. of the National Debt Office, *those principles which present themselves in due course throughout this paper were suggested.* That rep. was enclosed to the Treasury, with favourable remark in a letter of the 4th Nov. following, in which the Commissioners expressed their readiness to give every assistance in their power in the execution of this duty.

The "undersigned" of the last para. was Mr. A. G. Finlaison, the then Actuary to the Commissioners of the National Debt, who was finally instructed to make the investigation.

The first "sifting" to which the Returns had been subjected previously to being laid before Parl. has been already described in the historical art. But a second sifting was now deemed necessary, whereon "some Returns were rejected which had passed as perfect on the first perusal." *The entries of all honorary members were then struck out of the documents admitted as unexceptionable;* "and bars or lines were drawn across the cols. of years in which members were not present to be subject to the incidents of sickness or mort. This non-participation in the above chances might arise from various causes, such as a member not having yet become "free" to claim any benefit—his enrolment being too recent; or by his having disappeared from the books through *death*, [voluntary] departure, or exclusion." Further we are told:

... Every line was examined to detect any anomalous entry which might generate a suspicion that the Returns were spurious—either from ignorance or deception on the part of the person employed to draw it up; *and such schedules only as were found to be free from any defect whatsoever of the nature mentioned were considered as trustworthy statements.* The age in the year 1846, being that with which the obs. commences, was then inserted; and the Returns, thus amplified by the last-mentioned item, were then considered as perfect and thoroughly prepared for future analysis.

Each set of facts relating to one and the same man constituted, for the purpose of this inquiry, his physical hist. for the 5 years for which the information was given. In each case the occurrence or non-occurrence of 11 separate items or events had to be noted. It was found that the number of cases for separate observation and arrangement amounted to nearly 300,000; and that no fewer than 3½ millions of entries had to be abstracted. It was obvious that the numerical results could not be directly obtained from the actual schedules—transcription was therefore indispensable. In the manipulation of large collections of facts accuracy of treatment very much depends upon the mechanical arrangements which are adopted; and it was considered advisable to lay down two principles for the guidance of

the general operations. The first was that one transcript from the orig. documents should suffice for all purposes—as the chances of error are always greatly increased by frequent copying; the other, that each set of facts forming an individual case should be separate and moveable in the same manner as the ordinary type of a printer is shifted and re-arranged. This object was accomplished by having the transcript made upon sheets of cardboard, . . . the trace of the *Locality* of the individual being preserved by a line of colour (answering to a specially coloured map of England).

When the sheet was filled, the transcripts were compared and examined with the orig. document, and on their accuracy being verified, they were submitted to a classification, in which the *Trade* . . . was referable to one of 4 divisions of labour, or to one of 5 other classes. The cards were afterwards cut up into separate slips, line by line. *One class* of labour in a City, Town, or Rural District was then sorted at a time, with reference to *age*. The strips assembled under each year of life were then set up in frames prepared for the purpose, and the numerical results collected by one class of assistants. Each collection of strips, or bundle of cases, was then handed to another assistant, who re-arranged them in his own frame, and took the results likewise, and the two results being compared, inaccuracies were detected and set right. The abstracts of results were then copied on sheets prepared so as to collect the facts under the same year of life, age for age. The totals were then collected and corrected as before, and from them the various arrangements of the data were prepared. The plan thus followed had not, it is believed, been previously devised. It is of wide application, and may be of great use on other occasions in dealing with statistics; and for this reason it has been mentioned in unusual detail.

We are then reminded that the most essential thing to be determined—and that for which the Returns were most likely to prove of utility—was the *quantum of Sickness to which members of Benefit Sos. were liable at each age*. The second great desideratum, the Law of Mort. to which the same class of persons is subject. “But in setting out to collect this information, the knowledge that many influences are supposed to modify the results which are now the object of inquiry; and that circumstances of *climate* and *occupation* are believed by many to enter largely into the question; naturally had a general tendency to suggest the channels in which research should be carried on.” It would appear to most minds, considering the question, that among the primary conditions indispensable to the possession of bodily health must be ranged Food, Warmth, and Wholesome air. But it was apparent that many of the contributors to F. Sos. were placed in very different degrees of command over these first requisites to health and life. “Those causes therefore which may be supposed to influence, more or less, a command over these first supports of existence, indicate of themselves the direction in which an investigation of this nature should be generally conducted. There are minor agencies likewise, which are thought to deflect and impair the enjoyment of health and vigour, and which should not be passed by. It is desirable therefore to note these secondary causes as well, and to see, if possible, whether they also act in any material degree upon the constitutions of those who are subjected to their influence. It is added:

The most obvious consideration of all would at first appear to be that of *Climate*, which, through the medium of its temperature and quality of atmosphere, would seem to affect the vigour of the human frame in the most direct manner.

Density of aggregation is a second condition which may fairly be supposed to present a corresponding measure of intensity in the sickness prevailing among constituent parts of the mass. And, thirdly, the nature of the man's *Occupation* is an important element likely to influence, in a very material degree, the quantum of sickness to which the workman will be subject.

In an accurate observation of the sickness incidental to a body of men, there are two considerations to be kept in view—1. *The frequency of attack*. 2. *The duration of the illness*. It is the combination of these two things that produces the whole amount of sickness with which an asso. may happen to be affected within a given space of time. And it is the exact apportionment of this quantum of sickness among the number of persons of which the So. is composed, that yields the law of sickness to which each man present is liable.

In deducing the *Law of Mort.*, the first desideratum is to ascertain as accurately as possible the number of persons present during the whole of the year at each age. The next step is to note with equal care the deaths which also take place at each age. The number of deaths to each 100 persons present, at each stage of life, is a result attained through the rule of proportion. It is the most intelligible and popular form, perhaps, of displaying the law of mort., and on those grounds has been chosen.

In dealing with the first results of the Returns now before us, it is to be noticed that there are 4 classes not included, viz. *Females, Colliers, Miners, and Mariners*. They are stated to have been omitted for the following reasons: “The *females* on account of sex; the others on account of *occupation*; while the absence of fixity of abode was an add. reason in the case of the mariners. The callings of the 3 last classes are also generally an obstacle to their admission into Benefit Sos., which are not mainly composed of men of the same pursuits. And further, it was found necessary to make separate observations on each of these classes, as there was no place for them in common with arrangements subsequently proved to be expedient.” These occupations were however subsequently arranged in separate classes, with some others, to be afterwards noticed.

The facts below the age of 10 years and above that of 86 were found so scanty as “not to be worth the trouble of tabulation;” they were therefore omitted.

We are told that the cases of *superannuation* were carefully separated from the mass, and subjected, each one, to a rigid scrutiny, in order to determine whether it was a case of chronic sickness, or a case of superannuation, in the sense of retirement on a pension for *old age*. Where it was the case of a man under 60 set down, technically only, as superannuated, with a possibility of his restoration to health and position as a contributing member, *that man's case was classed under the head of sickness*—the principle being to retain as many of these cases in the latter category as possible. *The sickness tabulated therefore is the whole sickness that could be ascertained to be really such.* [As to the con-

sequences resulting from this last course, on the practical value of the T. for F. So. purposes, see remarks near close of our review of Mr. Finlaison's 2nd Rep. 1854.]

The data which had been obtained from the *Burial Sos.* of E. and W. were very imperfect—the cost of preparing efficient returns was deemed to have been the obstacle. The rate of mort. in *Burial Sos.* in *Kent* during the 5 years was found to be 1'854 p.c. But in these Sos. at this period no children were insured—no one under 14 years of age.

Passing now to the *Tabulated Results* given in the Rep. before us—Table I.: The 1st col. contains the ages of life from 10 to 86; the 2nd, the number of persons returned as liable to sickness at each age; the 3rd, the number of persons returned as sick in the year at each age; 4th, the number of persons returned as sick out of 100 persons liable to sickness; 5th, the sickness stated to have occurred—shown in days; 6th, average sickness p.a. to each person—also expressed in days. This is the point of chief importance in the whole inquiry, as from this information is determined the proper pecuniary contribution which shall secure a corresponding allowance in sickness. The 7th col. displayed the average sickness p.a. to each person sick—expressed in days.

The foregoing cols. complete the scope of the general digest as far as regards *Sickness*. The remaining cols. of the T. apply to *mort.* and *exclusions*. Then col. 8 gives the number of persons returned as subject to mort. at each age; the 9th col. shows the number of deaths recorded; the 10th, the mort. p.c. at each age. In the 11th is shown the number of persons withdrawing or excluded at each age; and the 12th or final col. shows the per-centages of these latter at each age.

The general facts resulting were as follow: The total number of persons included in the schedules as liable to *sickness* was 792,980—of these 198,152 were returned as having been sick, giving 24'99 p.c. The average amount of sickness p.a. to each person was 10'1155 days; and the average sickness p.a. to each person sick was 40'4809 days. So that practically these results gave for E. and W., and among old and young of the members of F. Sos., a little over 10 days sickness p.a.; that one man in 4 is attacked with sickness in the year, and suffers 40½ days of sickness.

As to *Mortality*, it was found to be 1'26 p.c. p.a., while the exclusions were stated to be 3 p.c. p.a. on an average. Mr. Finlaison remarks hereon:

This rate of mort. is low, but it is confirmed by the experience of the *Scotch* and *Irish* Sos.; by official returns made from F. Sos. in *France*, to the French Gov.; and by independent researches made by private persons among large numbers of Sos. of Odd Fellows, etc. It is to be remembered that the mort. set forth in this abstract is that which happened during the members' presence for the 5 years, or a portion thereof in the So.—and does not by any means represent the mort. to which they may have been, or perhaps will be, subject out of the So. previous to joining it, or after they may leave it. Other causes may be inferred from the high per-centage of exclusions found to prevail, especially in the earlier ages. But whatever be the reason, the mort. p.c. is the result of the deaths recorded and returned.

The 2nd T. displays the adjustment, in more perfect gradation, of the facts contained in the preceding abstract; and was effected by taking the sums, and averages for every 5 years, from the middle year of each 5. The same plan was followed throughout the digest. "This process was carried on for practical purposes, and to give the results, when thrown into a pecuniary shape, greater regularity of measure."

We now reach the more especial features of the present investigation, viz. the *Geographical* arrangement of the counties of E. and W. into 8 provinces as follows:

1. The 4 most northernmost Counties of Eng.
2. The "Manufacturing Province," including the West Riding of Yorks; and the Counties of Lancaster, Cheshire, Derby, Nottingham, Stafford, Warwick, and Worcester.
3. South-Western Province, embracing the 5 Counties of Gloucester, Somerset, Dorset, Devon, and Cornwall.
4. South-Eastern Province, comprising the 6 Counties of Wilts, Berks, Hants, Surrey, Sussex, and Kent.
5. Eastern Province, consisting of N. and E. Ridings of Yorkshire, and of the Counties of Lincoln, Cambridge, Norfolk, Suffolk, and Essex.
6. The Midland Province, comprising the 8 Shires of Leicester, Rutland, Huntingdon, Northampton, Oxford, Buckingham, Bedford, and Herts.
7. Principality of *Wales*, and the Counties of Hereford, Shropshire, and Monmouth.
8. The "Metropolitan Province," consisting of London, Middlesex, and those other environs of the Capital "which supply the facts contained in the present official Bills of Mort."

To each of the foregoing divisions it was considered there might be ascribed some leading characteristic, *throwing all other features into the shade*. Thus:

The *Northern* Province is the scene of rude and hardy labour: chiefly devoted to the exportation and transport of one of our most valuable mineral treasures. From this product at the same time the inhabitants of the district enjoy one of the principal comforts of life, on terms more favourable than most other portions of the kingdom.

The *Manufacturing* Province presents the spectacle of one continuous crowded workshop, where, although the toil is less severe, upon the whole, than that alluded to in the previous case, yet it is carried on where the forge and furnace, and the kiln and alembic, poison the air with smoke and deleterious gases. The pop. is densely packed in abodes indifferently drained and ventilated; and the destructive stimulant is but too ready a

solace to the exhausted frame and depressed mind. Profitable returns for youthful labour are readily obtained, and conduce to early unions between the sexes. Employments, from their nature, detaching in most cases the female from her domestic duties, and thereby deteriorating the comforts and healthiness of home, are the peculiar feature of the district. Again, there not unfrequently occur adventitious and widely-spread suspensions of the usual exercise of labour, in which the fruits of previous economy are totally demolished. It is unnecessary to go further and point out the dissipation and vices that invariably spring out of a close aggregation of human beings. *But all these circumstances put together would seem to bear with evil influence on the Public Health, and bring out lineaments that lend a peculiar aspect to the Manufacturing Districts, and distinguish them not only from neighbouring places, but also from the rest of the world.*

The *Western Province* is chiefly distinguishable from its position and peculiar form. The southerly and seaboard situation of the land, enjoying almost over the whole surface the mild and humid breezes of the Atlantic, give to it a peculiar type, as compared with the rest of the kingdom. *If there is any popular prepossession more firmly established than another on the point of climate, it is that of the superior salubrity of the S. Western country.* Whether the returns accord with this prepossession, a reference to them will show. But the strongly defined situation and atmospheric characteristics of this region seem to suggest sufficient grounds for separate obs. of its Sickness and Mort.

Of the *South-Eastern Province* is was deemed unnecessary to say more than that its aspect towards and immediate connexion with the Continent; its extensive chalky plains and downs; the absence of coal-fields; its long coast-line of trading and fishing towns, interspersed with watering-places fostered by the wealth of the metropolis, gave reason for discriminating between its pop. and the more primitive inhabitants of the West country.

In viewing the *Eastern Counties*, "general prejudice perhaps is estab. as strongly against the supposition of their salubrity as it is in favour of the healthiness of the supposed more favoured South-west peninsula. Placed opposite to the coast of Holland, to say nothing of its own soil, from whence, in the popular notion, were formerly supposed to arise "all the infections that the sun sucks up from bogs, fens, flats," to make men "by inch-meal a disease"; the inhabitants of this Easterly strip of land, imbibing the moisture of immense tracts of marshy country, which scarcely possess an outfall, might, *primâ facie*, be plausibly considered as dwelling at the very head-quarters of sickness in England. *But the Returns, if they may be accepted as indicators of the truth, afford a curious illustration of the frequently small value of such conjectures.* "At any rate, the topographical peculiarities of this Eastern tract seemed to be sufficiently prominent to justify its arrangement into a distinct province."

The *Midland circle*, comprising almost exclusively a purely agricultural pop., contained as it were in a ring fence, suggested the circumscription of the 8 counties of which it is composed. The position occupied by this district, in a sanitary point of view, in reference to the others, is sufficiently remarkable, the absence of any very obvious influence being considered.

The *Principality of Wales*, augmented by the 3 adjoining counties, is so completely marked out by the estuaries of the Dee and Severn, and by its antagonism in almost all points to the manufacturing counties bordering on its confines, as to cast itself into a perfectly distinct and well-rounded territory. With small exceptions its pop. is hardy and frugal, and is devoted to labour and occupations of the simplest nature.

Finally, the *Metropolitan District*. In this great centre of affairs, where unparalleled commerce and unremitting industry is urged on in close neighbourhood to gorgeous luxury on the one hand, and to the most squalid misery on the other, the vast crowd which is brought together presents in itself a highly distinctive object: "It becomes a matter of great curiosity to ascertain how far the dense assemblage of multitudes under such circumstances affects the physical welfare of an important section of the mass."

Since the preceding survey was taken—more than a quarter of a century ago—several of the districts have changed very much in their manufacturing aspects.

It will be instructive at this point to compare Mr. Finlaison's "Provinces" and their peculiarities with the Divisions of the Kingdom adopted by Dr. Greenhow in 1859 (see DISEASE, this date), and with those of Dr. Farr and others—see ENGLISH LIFE T. (HEALTHY DISTRICTS). [GEOGRAPHICAL DISTRIBUTION OF DISEASE.] [LONGEVITY.] Mr. Finlaison says generally as to his geographical arrangement:

... Although various considerations suggested this mode of treatment, the idea which led the way grew out of a reference to *climate*. Now it is well known that there are in this country extensive and well-defined tracts, varying greatly in their respective degrees of exemption from cold, and in the nature of their atmospheres. There are provinces also in which the description and abundance of food consumed by the inhabitants differ widely. Further, there are districts contrasting very strongly in their possession of cheap fuel, with other localities where the supply of this great comfort of life is both costly and difficult. Again, there are circles dotted with densely populated seats of industry, fermenting in striking contrast to neighbouring solitary wastes and sparingly peopled tracts, where the few inhabitants are of simple habits and of pastoral pursuits.

These very opposite characteristics seemed to demand an arrangement of the whole surface of the country into Districts, each of which should represent its general leading feature; and in conformity with this view the Returns were distributed.

In order that the boundaries made use of might be the more clearly defined to general apprehension, care was taken in laying out the circles to exclude no portion of a County or Riding; and those

confines which are marked out by nature gave the idea of the first rough lines of demarcation with which it was found expedient to map out the country. *No exercise of fancy is necessary to imagine that in remote times these limits must have been more strongly graven on the surface of Eng. Rivers, for want of drainage, must then have swollen into estuaries, or have escaped into wide and impassable morasses. Wastes must for the time have remained irreclaimable swamps; and forests must have presented barriers almost impracticable to frequent intercourse between the small scattered communities of the day. The effect of such comparative isolation is not yet effaced: for it appears that on the whole these natural limits—where still recognizable—were the best that could be adopted for the purpose held in view in the present inquiry: as they encompass provinces which respectively wear very distinctive aspects; and in respect of the remaining districts—where the ancient natural boundaries are now but ill-defined—circumstances of an adventitious nature stamp them with their own peculiar features.*

The data deduced from the Returns having been thus divided into 8 sections—each proper to one of the already described provinces—the results observable in the 5 years 1846, 7, 8, 9 and 50, were shown respectively in the different districts.

The sickness, on the whole, was at its *maximum* in the years 1849 and 50. But it bore with heavier effect during the first of these 2 years on the Northern, Manufacturing, Midland, Welsh, and Metropolitan Provinces; while in the following year it showed itself in its greatest intensity in the Eastern and the 2 Southern Districts. Generally viewed, the average sickness to each person grew up to a maximum in 1849, and then receded a little in 1850. The liability to attack was greatest in 1849; but the duration of the sickness was longest in 1850. These facts are developed in great detail in T. on p. 6 of the Rep.

The next T. (p. 7) shows the proportion of sickness and mort. in F. Sos. in *each province*—and this was in many respects one of the most interesting, as also one of the most important portions of the inquiry. It has already been stated that the chief object of the analysis of the Returns was to ascertain the quantum of sickness to which the members of F. Sos. were liable at each age. As auxiliaries to this inquiry, it was sought also to know the number of sick out of each 100 persons liable to sickness; and further, the average duration of sickness to each person sick. On these three points the Returns, when topographically arranged, present some very striking results.

On referring to the proportion of sick persons out of each 100 persons liable to sickness—that is to say, those enrolled and free to claim the allowances—the per-centage taken sick was as follows:

Midland Province	29'29 p.c.	Metropolitan	25'30 p.c.
South-Western	27'77 „	Manufacturing	22'34 „
Eastern	26'41 „	Welsh	22'14 „
South-Eastern	25'96 „	Northern	19'89 „

Mr. Finlaison says:

One or two reflections suggest themselves on a perusal of the foregoing scale. In the first place, there seems to be a wide difference in susceptibility to sickness between the Northern workman and the Midland agricultural labourer. The latter have upwards of 9 p.c. more of their number returned as claimants for allowances in sickness than the Northumbrians. In the 4 Provinces which stand first in order in the above category, it will be observed that the agricultural labourer, and those that live by the land, must greatly preponderate over all other classes of society. It must also be borne in mind that where succour in distress is most ready, there is a greater tendency to fall back upon its assistance. It would, perhaps, be invidious to speculate whether a greater assurance of sympathy with his affliction exists in the mind of the rural labourer, who is well known to the heads of his parish, than is to be found in the mind of the artisan or operative, who is generally much less closely connected with his employer and neighbours; and whose relations with his master close with the cessation of his work. Nor is another element of the question to be left out of sight. The difference between the ordinary amount of benefit in sickness and the ordinary rate of wages is far less in the rural provinces than in the manufacturing districts. Also, where the price of fuel is at its lowest, and where almost every cottage can command a glowing hearth, the susceptibility is least; while in the counties where the difficulties in the way of the transport of coal are the greatest, the liability is at its worst. But be all this as it may, it is shown by the Returns *that the liability to sickness is at its maximum in the Midland seats of agriculture, and at its minimum among the labourers in the Northern coal-fields.*

But it was found that there was “a remarkable counterpoise” to the relative position of the agricultural counties and the other provinces of Eng. “Exactly in the inverse ratio of these districts to susceptibility of attack *is the duration of the sickness.*” If the inhabitant of the North Country be more impenetrable to sickness, the lodgement of the foe, when once effected, is estab. for a far more formidable period. The relative position of the victim is exactly reversed in the different districts attacked by sickness. For instance, the average number of days' sickness p.a. to each person sick in each province was found to be as follows:

Days' Sickness.		Days' Sickness.	
Northern Province	50'38	Eastern	37'39
Welsh	45'73	Metropolitan	37'34
Manufacturing	45'02	S. Eastern	37'22
S. Western	39'65	Midland	36'37

The case might be stated in a more compendious form, thus:

Province.	No. p.c. taken sick.	Days of Sickness to each person.	
Northern	minimum 19'89	maximum	50'38
Welsh	„ 22'14	„	45'73
Manufacturing	„ 22'34	„	45'02
Midland	maximum 29'29	minimum	36'37

Here it is seen that the Midland contributor to F. Sos. has but 5 weeks' sickness to the 7 weeks' illness with which the Northman is afflicted. "This bears out the surmise of the lesser reluctance shown by the agricultural labourer to place himself on the "sick list"—as it is evident his attacks are by no means of such a formidable character as those to which the North Countryman is compelled to succumb." Mr. Finlaison further says :

In balancing the liability to sickness against its duration, it is a merciful consequence of their mutually compensating effects that the quantum of sickness to which each man throughout England is liable *varies but little, let his abode be in what province it may*. If he be frequently attacked, the complaint is of a less formidable character; and if the disease that hovers about him be virulent, his hardy nature is such that it repels the evil for a greater length of time. Whether the sicknesses that visit the North be more malignant, or whether the *nidus* they there find fosters more greatly their venom, it is not within my province to venture an opinion. I may, however, conjecture that their native intensity is mitigated by the more careful habits of the South, although even in this latter quarter there is yet room for improvement.

But between the two classes of facts a consolatory balance is estab. "The average sickness of the whole year to each person throughout E. and W. differs in its most violent extremes but 1 day and a half." The returns give the case as follows :

	Average Sickness p.a. to each Person, in Days.		Average Sickness p.a. to each Person, in Days.
S. Western Province	11'01	Northern	10'02
Midland	10'65	Eastern	9'88
Welsh	10'13	S. Eastern	9'66
Manufacturing	10'06	Metropolitan	9'45

Mr. Finlaison says hereon : The imaginations of enthusiasts in favour of the rural superiority as regards exemption from disease, are not borne out by the facts derived from the experience of the working classes of society. "*For, contrary to most preconceived opinions, the place where the average sickness p.a. afflicting each member of a Club is at its lowest point in all Eng. is the Metropolis* ; while even the Northern and Manufacturing Districts also take precedence of 3 out of the 5 Agricultural Districts, and of Provinces which previously would have been supposed incomparably superior. This is a matter, however, which comes home to the pecuniary stability of Benefit Sos., while the susceptibility of attack and the duration of the sickness chiefly concern the individual."

The effect on the funds of a F. So. is shown in the following comparison between the positions of 8 different Sos.—each consisting of 100 persons—in each of the Provinces : the members being supposed to range from 25 to 50 years of age. If the allowance in sickness were 1s. p. diem, then for this benefit the Club would prob. ann. pay in sickness allowances among its members, where the So. is estab. in the

	£	s.	d.		£	s.	d.
Northern Province	35	18	0	Welsh	41	6	0
Manufacturing	36	19	0	S. Eastern	41	8	0
Metropolitan	38	9	0	Eastern	42	10	0
S. Western	39	13	0	Midland	44	0	0

This represents the prob. relative expenditure of F. Sos. in the first 20 years after their estab.

The *mortality* p.c. at all ages was found at its maximum (1'76) in the *Northern* Province, and at its minimum (1'02) in the *Midland*.

The effect of *Density of Pop.* is next considered, or, as Mr. Finlaison puts it, "In deference to preconceived and widely-spread opinions, it has been next thought necessary to display the effect of density of aggregation on the mass of contributors to F. Sos. For this object there was no distinction more palpable than the apportionment of the Returns into those several sections which were given in from Towns, Cities, and Rural Districts of Eng. and W." It is here added :

In the arrangement of E. and W. into City, Town, and Rural Districts, for the purposes of this investigation, some difficulty arose on the point of settling what should constitute a City. It was clear that for the purpose of this inquiry a small, clean, and thinly populated Cathedral Town, with no commerce, and placed in a purely agricultural district, could scarcely be deemed a City, in the sense of "*Oppidum*"—a place of riches and of great concourse of inhabitants; neither could a straggling neighbourhood of houses fulfil the conditions of "*Urbs*"—a compact and enclosed town. "*Civitas*" refers merely to the government and "order of magistracy" estab. in a place possessing the above-mentioned characteristics of *urbs* and *oppidum* as well. There was therefore a necessity of having reference to some standard indisputably in possession of the foregoing and all other constituent parts of a city; and none seemed superior to the metropolis itself for propinquity and mass of buildings, and for assemblage of inhabitants under a certain proportion of roofs.

It appeared that the number of persons to each house in the

West District of {	8'2042 inhabitants.	Central	9'5360 inhabitants.
Lond. was		East	7'2810 "
North ,,	8'2454 "	South	6'6552 "

Therefore a density of pop. but little lower than that of the sparsest parts of the metropolis was assumed to be an element of a "City"; "and although it was found difficult to draw a line and retain the distinctive features of a pop. which is recognizable as civic only in close contiguity to fully-peopled dwellings, yet by restricting the term to places which, with a pop. of not less than 3000 houses to the square mile, had a pop. of at least 65,000 inhabitants, a distinction has been estab. which distinctly separates the 'Cities' from

the 'Towns.' " *Not more than 4 places throughout all Eng. were found to possess the requisite qualifications!*

The "Town Districts" comprised generally places containing above 3000 and less than 65,000 inhabitants.

The "Rural Districts" comprised the parts of E. and W. not contained in the two preceding divisions.

It was found that "the proportion of sick persons out of each 100 persons liable to sickness" at the ages undermentioned was as follows, in the "adjusted" results:

Age.	City Districts.	Town Districts.	Rural Districts.
20	26'94	25'22	27'08
30	22'41	21'79	23'03
40	23'84	22'43	23'60
50	27'04	26'10	25'69
60	30'59	33'10	29'82
70	41'06	42'34	41'29

No traces of a law, nor any regular preponderance of any one of the three at each consecutive age, is here to be observed. On the mass (*i.e.* all ages) the general average for each District stands as follows:

City Districts	25'20	Rural Districts	25'14
Town ,, ...	24'63	E. and W. ,, ...	24'99

In respect to the "average amount of sickness p.a. to each person expressed in days," the results were as follows:

Age.	City Districts.	Town Districts.	Rural Districts.
20	6'80	6'90	6'88
30	6'45	6'75	7'10
40	8'02	8'22	8'26
50	11'63	12'12	11'06
60	17'84	20'07	18'20
70	34'57	44'97	44'90

"Something of a general law in favour of the superiority of health in Cities seems to be here perceptible." While between the sickness observable in the Town and Rural Districts, what little difference there is preponderates on either side, but is scarcely observable. In the aggregate of all the ages, the sickness to each person was found to be as follows:

City Districts	9'67 days	Rural	10'05 days
Town	10'40 ,,	England and Wales	10'12 ,,

In respect to the "average amount of sickness p.a. to each person sick, expressed in days," the facts came out as follows:

Age.	City Districts.	Town Districts.	Rural Districts.
20	25'26	27'34	25'42
30	28'77	30'96	30'83
40	33'64	36'63	35'00
50	43'03	46'55	43'07
60	56'34	60'63	61'03
70	84'20	106'22	108'74

Here then was again found a "clear manifestation in favour of the City Districts, without any positive bal. on either side of Town and Rural Districts as between themselves."

In the gross—that is, at all ages—the average amount of sickness to each person sick was found to be, for:

City Districts	38'39 days	Rural	39'96 days
Town	42'25 ,,	Eng. and Wales	40'48 ,,

Hence it is seen that the citizen suffered 2 days' less sickness than the townsman or the countryman: "all which is certainly not in accordance with popular prejudice. But it is difficult to disconnect the known inferiority of sanitary regulations in the towns, separately from the rest of E. and W., from the foregoing results."

When we approach the subject of *mortality*, a contrary tendency is shown. For example, the rate of mort. p.c. came out as follows in the different districts:

Age.	City Districts.	Town Districts.	Rural Districts.
20	1'07	'93	'66
30	'97	'78	'72
40	1'63	1'08	'85
50	1'82	1'71	1'29
60	3'35	2'84	2'27
70	4'94	6'40	5'14

In the aggregate (*i.e.* at all ages) the case was as follows:

City Districts	1'67 Deaths p.c.	Rural	1'11 Deaths p.c.
Town	1'37 ,,	E. and W.	1'26 ,,

Nor were the "Exclusions" from membership less remarkable ; thus :

City Districts.....	5'12 p.c. excluded	Rural.....	2'59 p.c. excluded
Town.....	2'94 "	E. and W.....	3'00 "

On the differing features developed between sickness and mort., Mr. Finlaison remarks: "Causes other than those arising out of sanitary considerations might perhaps be assigned for the discrepancy observable between the results uniformly obtained from the sickness, and those displayed in respect of the mort. But the inversion of the rates is difficult of explanation. *On the whole question, however, it is clear that there is no law of sickness so very distinctly pronounced as to justify any discrimination in pecuniary results on the ground of sojourn in City, Town, or Country.*"

We next approach the details of the investigation, in their bearing upon *Occupation* ; and here we had better listen to Mr. Finlaison's own testimony :

The division of the investigation into three principal branches of inquiry will call to recollection that there is a third process to which the Returns have been subjected. *This process was considered to be quite as requisite as the two preceding, and was thought to promise more valuable results than either.* It is a classification and abstract of the statements in reference to the influence of *Occupations and Trades* on the liability to attack, the duration, and the average amount of ann. sickness, etc. *On this point many refined distinctions might easily have been drawn, but a course had been adopted in pursuance of which the facts have been classified on a much broader basis.* The mere technical distinctions of trades, or handicrafts, have been discarded, and the arrangement has been grounded on circumstances more or less common to one or other of the great masses into which the industrial classes divide themselves. I am aware that several exceptional cases will present themselves in the technical as well as in the geographical distribution of the Returns ; and that here and there, perhaps, cases will be comprised in one group which might more fittingly be found in another. But this was a difficulty which could only be got rid of by a classification so delicate as to diminish the general practical strength of the conclusions, and to leave it none the less open to minute and refined reflections.

There are certain influences which bear in a greater or less degree on the exercise of labour ; but the principal agencies affecting the human constitution in such exercises are, the degree of force called out, the temperature in which that force is exerted, and the atmosphere wherein it is put into action. For instance, there is hard labour with exposure to weather, and there is hard labour subject to no such aggravation. There is a large class of labour requiring no great exercise of strength, which is carried on under shelter and in warmth—such as silk and cotton factory labour ; while there are also light employments, as they may be termed, which are pursued in the open air. Again, there are many branches of industry which are followed in crowded workshops under circumstances highly unfavourable to the respiratory organs ; while there are other callings which can be pursued at a man's own fireside—*this last class being that which prob. produces the greatest amount of deceptive claims.* And it may here be observed that whatever quantum of feigned sickness was comprised in the Returns, there is no doubt that it is pretty equally spread over the whole mass, and, being reckoned up with the true sickness, will be provided against equally with the latter.

The above general arrangement of the subject appears to me, on the whole, to have assembled in their respective classes the great bulk of industrial occupations in this country, with tolerable accuracy and relative fairness.

In accordance with the preceding views, the Trades and Occupations mentioned in the Schedules of Sickness and Mort. received from F. Sos. in E. and W. had been arranged into four classes, viz. (1) Light, and (2) Heavy Labour *without* exposure to the weather ; (3) Light and (4) Heavy Labour *with* exposure to the weather. "The leading constituent parts of which these sections are each made up are themselves groups of a variety of subordinate occupations, more or less numerous. This remarkable subdivision of the principal items in each sec. is an interesting exemplification of the infinite variety into which the general industry of the country pursues its ramifications."

1. The class *Light Labour WITHOUT exposure to the weather* included the following sections : Artists (in 6 sub-sections, including Architects), Bakers (Pastrycooks), Barbers, Basket Makers (5 sub-sec.), Book Trade (6 sub-sec.), Brush Makers (5 sub-sec.), Butchers (4 sub-sec.), Button Makers (8 sub-sec.), Chemists (6 sub-sec., including Firework Makers), Coach Trade (4 sub-sec., including Painters and Varnishers), Colour Makers, Confectioners (Lozenge Makers), Cooks, Composition Ornament Makers, Cork Cutters, Engravers, Factory Operatives, Feather Dressers, Flax Trade (3 sub-sec.), Glass Trade (7 sub-sec.), Gentlemen, Gold and Silver Smiths (20 sub-sec.), Electrotypers and Gold-beaters, Hatters (4 sub-sec.), Ironmongers, Lapidaries, Leather Trade (27 sub-sec., including Fellmongers and Tanners), Malt Trade, Musicians (5 sub-sec.), Opticians, Paper Trade, Potters (5 sub-sec.), Principals of Departments, Clerks, Foremen, etc. (28 sub-sec., including Excise Officers, Time Keepers), Printing (5 sub-sec.), Sail Makers (3 sub-sec.), Servants (15 sub-sec., including Butlers and Turnkeys), Shopkeepers and Indoor Dealers (27 sub-sec., including Beershop Keepers, Marine Store Dealers, Fishmongers, Inn Keepers, and Rag and Bone Dealers !), Silk Trade (10 sub-sec.), Small Metal-ware Workers (15 sub-sec., including Needle Makers), Soap and Candle Trade (6 sub-sec., including Fat-melters and Soap-boilers), Spinners (7 sub-sec.), Stable-keepers, etc. (13 sub-sec., including Horsebreakers and Ostlers), Tailors and Drapers, Tobacconists, Toy Makers, Watch Trade (6 sub-sec.), Weavers (21 sub-sec.), Musical Instrument Makers, Woollen and Cloth Trade (53 sub-sec., including Dippers, Dyers, etc.), Workers in Wood, Bone, Horn, etc. (including in all 49 sub-sec.) ; and "all others exercising Light Labour of no special class, without exposure to the weather."

2. The class *Light Labour WITH exposure to the weather* included Bleachers, Cattle Dealers, Caulkers, Convict Guards, Custom House and Dock-yard Officers (embracing 5 sub-sections), Drivers, Conductors, and Attendants of all Vehicles, except Cars and Drays (embracing 21 sub-sec., including Railway Guards, Engine Drivers, etc.), Farmers,

etc. (15 sub-sec.), Market Gardeners, Messengers (22 sub-sec., including Letter Carriers and Firemen), Out-door Dealers and Shop-keepers (7 sub-sec.), Painters, etc. (6 sub-sec.), Plasterers (3 sub-sec.), Riggers, Rope Makers or Ropers, Thatchers.

3. The Class *Heavy Labour* WITHOUT exposure to the weather included Brewers' and Distillers' workmen (5 sub-sec.), Chemists' and Druggists' Workmen (6 sub-sec.), Coopers (3 sub-sec.), Glass Trade (3 sub-sec.), Millers (4 sub-sec.), Plumbers, Sawyers, Shipwrights (3 sub-sec.), Smiths, etc. (embracing in all 188 sub-sec., including metal-workers in all forms), Sugar Refiners (2 sub-sec.).

4. The Class *Heavy Labour* WITH exposure to the weather included Agricultural Labourers (19 sub-sec.), Brickmakers (5 sub-sec.), Builders (12 sub-sec.), Carmen (4 sub-sec.), Coal Trade (8 sub-sec.), Costermongers, Kiln-men (8 sub-sec.), Labourers (45 sub-sec.), Railway Labourers (10 sub-sec.), Salt Trade (5 sub-sec.), Watermen (15 sub-sec., including Bargemen, Fishermen, Pilots, etc.).

Independent Classes.—But in addition to the foregoing, there were reserved, as representing distinct classes of labour, *Miners* and *Mariners*, in all the subordinate branches of these callings. Again, to these there was afterwards added a third class—composed exclusively of *Females*. "The facts concerning the females in the Returns, when collected, were found to be insusceptible of any arrangement having reference to occupation, on account of the very small number of employments specified—the general description being almost always simply that of Female."

The following T. furnishes what are termed the "general averages" relating to the 4 leading classes :

*	No. returned as Sick out of each 100 Persons liable to Sickness.	Average Sickness p.a. to each Person, expressed in Days.	Average Sickness p.a. to each Person Sick, expressed in Days.	Mort. p. c.	Withdrawals and Exclusions p.c.
Class 1	21.58	9.5489	44.2483	1.42	2.97
" 2	20.80	8.5288	41.0053	1.37	2.82
" 3	26.54	10.8122	40.7349	1.38	3.08
" 4	28.04	10.6537	37.9960	1.07	1.07
E. & W.	24.99	10.1155	40.4809	1.26	3.00

Examining the elaborate abstracts of the data applicable to each of the preceding classes, the following additional facts of interest are obtained.

Light Labour Class without exposure.—The collective number of members embraced in this classification, "which, for obvious reasons, includes the most intellectual class of workmen," amounted to 286,909. The number returned as sick out of each 100 persons liable to sickness was 21.58. The average sickness p.a. to each person being 9.55 days ; and the average sickness p.a. to each person sick 44.25 days.

The liability to sickness runs up to a temporary maximum as it were at the age of 18 or 19—which is the period when the young workman is emancipated from indentures, and begins to earn wages on his own account. *It is not until he has turned the age of 50 that the same per-centage of liability to sickness recurs to affect his case.* The average sickness to each man also obtains an ascendancy for the moment at the age 18, and after subsiding from that point, does not reattain the same intensity until the age of 37. From this age it goes on increasing to the highest age. The average sickness p.a. to each person sick proceeds with a steady increase from the earliest age to the close of the observation.

The mort. p.c. in this division is above the average ; and is in fact the heaviest of the 4 classes of labour. It is 1.42—the average of the 4 being 1.26.

Light Labour Class with exposure.—The collective number of members of this class under obs. was 58,709—being but little more than one-fifth of the numerical force of the previous class. "There is nothing surprising in the disparity of the two divisions." In this class the average number returned as sick out of 100 persons liable to sickness was 20.80 ; the average sickness p.a. to each person sick was but 8.53 days ; while the average sickness p.a. to each person sick was 41.005 days.

In this class also the maximum number sick out of each 100 persons liable to sickness shows itself at the age of release from apprenticeship : being then about 24 p.c.—to which amount the per-centage, after decreasing from the age of 19, does not again rise until the age of 65. The average sickness p.a. to each person rises at the same age of 19 to a momentary height of 6.2 days, from which point it subsides, to again remount to the same level at the age of 36. As in the previous division, the average duration of sickness goes on gradually increasing from the earliest ages to the highest under obs.

The mort. p.c. in this sec. falls but little—being 1.37 p.c. on the average.

Heavy Labour Class without exposure.—The number of members under obs. was here 94,259. The number returned as sick out of each 100 persons liable to sickness shows some contrast to the same per-centage in the two previous classes—being now 26.54 p.c. Here also the average sickness p.a. to each person increases to 10.81 days. But the

average sickness p.a. to *each person sick* does not increase, but recedes a little—to 40·73 days.

In this class the maximum liability at the younger ages to attack showed itself at the age of 21; but this rise above the common level which prevails from 18 to 23 years is almost imperceptible. This per-centage of 26·76, which subsides from the age of 21 till it reascends to the same level at the distant age of 48 years, seemed to arise more from an undue expenditure of the immature physical strength during the 6 years of early manhood—extending from 18 to 24 years of age—than from any other cause. Unlike the two previous classes, there is presented no diminution of the average amount of sickness to each person from the age of adolescence down to a minimum point, from whence the visitation of sickness again augments with the increase of years. On the contrary, a steady and constant increase of sickness takes effect from the earliest to the highest ages. *In respect of the average amount of sickness to each person sick, it seems to follow the same law as in the two preceding classes.*

The *mort.* p.c. in this division is almost identical with that found to prevail in sec. 3—being 1·38 p.c. on the average.

Heavy Labour Class with exposure.—This class presented the largest mass of facts, no less than 353,103 members being brought under obs. The liability to attack was here shown to be 28·04 p.c. The average sickness p.a. to each person 10·65 days; and the average sickness p.a. to *each person sick*, 38 days. In this class were included the “agricultural masses,” and those employed in labour of the rudest kind. Here, at the age of adolescence, the liability to attack starts from a heavy maximum of 32 p.c. at 14 years of age, diminishing to 27 p.c. at the age of 23; and from thence further subsiding to a minimum at 32, of 25·43 p.c. From thence the liability augments until the same susceptibility of attack as prevailed at 23 recurs at 40 years of age.

This (says Mr. Finlaison) looks like the effects of a premature demand upon the bodily vigour. The average sickness to each person points in the same direction—the maximum at 14, viz. 7·67 days, decreasing to the age of 20; and from thence rising again to the same amount at the age of 29 years. But in accordance with what had already been manifested, the average sickness p.a. to each person sick decreased in proportion to the liability to attack—showing itself at a minimum at the age of 14, exactly where the maximum was visible in the susceptibility to sickness.

The *mort.* p.c. in this division was but 1·07 in the 109—the minimum of the 4 classes.

General Survey.—We may now with advantage take a general comparative survey of the incidents attaching to these several classes.

From the preceding it appears that persons engaged in Light Labour *without* exposure to the weather have 21·58 p.c. of their number returned as sick, and have but 9·55 days' sickness; but on the other hand have 44·25 days of sickness to each person sick, as a counterpoise to their comparative immunity from attack. Contrasted with this, the persons engaged in Heavy Labour *with* exposure to the weather have 28·04 p.c. of their number attacked, and have 10·65 days' sickness on the average. But as a compensation for this aggravated lot, the duration of their sickness p.a. is reduced to 38 days. This compensative process, therefore, seems to obtain the consistency of a principle, when the results obtained in each of the two previous classifications are borne in mind.

When the sickness attendant upon labour under the 4 conditions in which it has been severally arranged is observed, some marked differences between the respective classes immediately attract notice. The first plan under which the contrast is exhibited has regard to “the number returned as sick out of each 100 persons liable to sickness.” The adjusted results show the following per-centages:

Ages.	LIGHT LABOUR.		HEAVY LABOUR.	
	<i>Without Exposure to the Weather.</i>	<i>With Exposure to the Weather.</i>	<i>Without Exposure to the Weather.</i>	<i>With Exposure to the Weather.</i>
20	22·70	23·71	26·47	28·69
25	19·90	21·04	25·10	26·47
30	18·51	19·64	23·45	25·74
35	18·49	19·02	24·00	25·64
40	19·40	19·88	24·34	27·01
45	20·49	19·33	25·14	28·14
50	23·07	20·74	28·10	29·34
55	25·63	21·93	31·40	31·11
60	28·36	22·87	33·25	35·42
65	32·80	24·84	38·26	40·25

It would therefore appear, that although exposure to the weather does seem to exercise a less prejudicial effect on the *light* employments above 40 years of age; “*yet on the whole, and especially in the case of heavy labour, the liability to attacks of sickness at all ages is greatest among those who are most exposed to the severity of the elements.*”

Where the important practical question of "the average amount of sickness p.a. to each person" is involved, the results are equally well defined, in the same direction. For instance :

Ages.	LIGHT LABOUR.		HEAVY LABOUR.	
	Without Exposure to the Weather.	With Exposure to the Weather.	Without Exposure to the Weather.	With Exposure to the Weather.
	Days.	Days.	Days.	Days.
20	6'48	6'00	6'71	7'16
25	6'00	5'78	6'82	7'45
30	6'01	5'85	7'06	7'69
35	6'20	5'84	7'45	8'04
40	7'13	7'29	8'03	9'40
45	8'03	7'48	9'87	10'78
50	10'48	10'02	12'15	12'58
55	13'65	10'66	16'08	14'33
60	17'18	11'23	20'36	21'78
65	26'22	18'15	26'99	31'55

The remarkable mitigation in sickness in the case of the light labour *with* exposure to weather, as compared with the other three classes, at once attracts notice, and indicates the most healthy condition of existence. But the result of exposure to weather is not to be conclusively inferred therefrom by any means, as it would appear in the case of heavy labour to be an ingredient materially aggravating the quantum of sickness attaching to this ruder class of occupation. *The agency of more powerful causes than the influence of the elements begin to make themselves perceptible in this arrangement of the subject.*

The third aspect in which the case has to be viewed is with regard to the average amount of sickness p.a. undergone by *each person sick*. The results are as follows :

Age.	LIGHT LABOUR.		HEAVY LABOUR.	
	Without exposure to the weather.	With exposure to the weather.	Without exposure to the weather.	With exposure to the weather.
	Days.	Days.	Days.	Days.
20	28'53	25'30	25'37	24'97
25	30'16	27'47	27'19	28'15
30	32'43	29'80	30'09	29'89
35	33'50	30'70	31'04	31'37
40	36'74	36'66	32'97	34'80
45	39'21	38'71	39'28	38'29
50	45'43	48'34	43'25	42'87
55	53'26	48'63	51'22	46'05
60	60'57	49'11	61'23	61'48
65	79'96	73'07	70'54	78'39

In this presentment of the case, the action of the degree of labour, or of the exposure to the weather, *seems to disappear and manifest no influence*. The only law or principle perceptible seems to be that immutable rule which pervades the whole observation, namely, *the inverse duration of the sickness in proportion to its frequency of attack*. It will be observed that the class engaged in heavy labour *with* exposure to the weather is most liable to attack out of the four divisions of employment, and *is least afflicted in respect of duration*.

Turning now to the *mortality* : "when the results are classified with respect to the different degrees of labour, the facts do not seem to offer any very pregnant conclusions." For example, the mort. p.c. in the 4 classes is as follows :

Age.	LIGHT LABOUR.		HEAVY LABOUR.	
	Without exposure to the weather.	With exposure to the weather.	Without exposure to the weather.	With exposure to the weather.
20	'79	'48	'79	'72
30	'79	'91	'83	'72
40	1'15	1'12	'97	'92
50	1'59	1'55	1'62	1'35
60	2'90	2'25	2'75	2'32
70	5'99	5'71	5'68	4'78
80	12'17	12'00	11'26	13'96

"There does not appear to be any constant determination of the mort. in the above for or against any particular class of labour. The pressure weighs on one or the other order of persons with the utmost indifference of incidence. No connexion of cause and effect seems to be evinced in this view of the subject as far as regards the mort."

We now pass to another branch of the general inquiry, in view of ascertaining whether the circumstances in which the labour was carried on in respect of *Density of Pop.*,—or rather City, Town, and Country life,—manifested any results of special note. The first point again to be considered is the *number of persons sick out of each 100 persons liable to sickness* :

In the case of *Light Labour* "without" exposure the results were as follows :

Age.	City Districts.	Town Districts.	Rural Districts.
20	23'05	22'08	23'13
30	16'85	19'03	18'65
40	19'72	19'04	19'62
50	24'49	23'13	22'32
60	28'53	30'32	26'32
70	36'70	38'54	39'41

Next follows : *Light Labour* "with" exposure :

20	19'39	29'34	22'05
30	26'12	19'42	15'88
40	27'36	21'60	16'19
50	29'58	24'98	17'69
60	29'63	27'53	20'00
70	32'00	46'67	32'02

Then : *Heavy Labour* "without" exposure :

20	36'36	26'75	25'86
30	28'16	23'52	22'43
40	26'41	25'63	22'69
50	32'41	28'82	26'24
60	30'77	35'95	30'33
70	55'35	49'92	43'40

Finally : *Heavy Labour* "with" exposure :

20	30'24	28'22	28'72
30	27'78	25'55	25'59
40	30'26	26'60	26'78
50	29'89	29'95	29'08
60	36'04	37'85	34'34
70	49'51	42'82	44'83

It is difficult (says Mr. Finlaison) to detect any prominent law in the 4 previous arrangements of the facts, or in the more ample details given in the extended T. "If there be any preponderance of liability to attack in any one of the 3 places of residence, it is to be found perhaps in the City Districts ; but the indications are vague."

We next have to examine whether the *average amount of sickness* as prevailing in the 4 classes is influenced by the *Density of Locality*. Thus :

Light Labour "without" exposure :

20	5'88 days	6'40 days	6'58 days
30	4'91 "	6'22 "	6'22 "
40	6'69 "	7'46 "	7'00 "
50	10'41 "	11'59 "	9'37 "
60	15'39 "	19'36 "	15'80 "
70	26'74 "	46'44 "	42'71 "

Light Labour "with" exposure :

20	4'14 days	8'38 days	5'30 days
30	6'92 "	5'88 "	5'20 "
40	9'19 "	8'79 "	5'81 "
50	15'97 "	11'31 "	8'59 "
60	13'95 "	15'71 "	8'92 "
70	27'48 "	14'31 "	39'94 "

Heavy Labour "without" exposure :

20	8'89 days	6'58 days	6'73 days
30	7'61 "	6'94 "	7'05 "
40	8'17 "	8'90 "	7'21 "
50	12'46 "	12'26 "	11'97 "
60	22'76 "	18'73 "	21'89 "
70	54'06 "	50'46 "	44'89 "

Heavy Labour "with" exposure :

	20	30	40	50	60	70
	7'80 days	8'41 "	10'35 "	12'92 "	20'44 "	52'29 "
	7'58 days	7'60 "	8'99 "	13'19 "	23'54 "	36'62 "
	7'08 days	7'65 "	9'42 "	12'34 "	21'28 "	47'98 "

As far as *Light Labour* is concerned, *with or without* Exposure to Weather, the *preponderance of sickness is to be found in the Towns, and not in the Cities*; and is most strongly marked in the higher ages. The Rural Districts have the lowest average amount of sickness up to 60; but above that age the sickness exceeds that prevailing in the Cities.

In respect of *Heavy Labour with or without* Exposure to Weather, there is no decided predominance in the sickness occurring in City, Town, or Rural Districts. "If there is any difference at all perceptible, it is somewhat in favour of the sickness in the Rural Districts taking place under 50 years of age." But there is no clearly estab. preponderance of sickness in any one of the 3 localities as far as concerns *Heavy Labour*. "Nor, in fact, as far as regards the question, is any decided testimony obtained from the Returns to estab. anything in favour of the comparative sanitary superiority of City, Town, or Country. If there be any tendency perceptible, it is perhaps slightly in favour of labour carried on in the Rural Districts in early manhood, and middle age." It is added :

The average amount of sickness to each person sick *presents different results in each class of labour, and asserts no constant predominance throughout in respect of either City, Town, or Rural influence*. In the case of *Light Labour without* exposure to the weather, the average amount of sickness preponderates very greatly in the Towns, and is lowest in the Cities. Where *Light Labour* is carried on *with* exposure to the weather, the average amount of sickness is greatest in the Towns up to the age of 40; but after that period the lead passes to the Cities until the age of 55, then returns to the Towns, and then again is taken up, at the age of 65 and upwards, by the Rural Districts. The same irregularity prevails in respect of City, Town, and Rural Districts, where heavy labour, with or without exposure to the weather, is concerned. There seems to be no particular gradation of morbid intensity discoverable in the analysis of the Returns with reference to the density of aggregation.

But it was not so difficult to perceive a ruling principle in the results of the mortality p.c., when tabulated in reference to City, Town, and Rural Districts. Under this arrangement a general increase of the mort. in the Towns, as compared with the Rural Districts, was perceptible; while the deaths p.c. were heaviest of all in the Cities. "This order of circumstances is, on the whole, common to each of the 4 classes of labour, although there are some irregularities perceptible at the higher ages above 70." Mr. Finlaison adds :

In closing the review of this section of the inquiry, it may be fairly concluded that *the difference of circumstances in respect of shelter goes for little, while the difference in respect of place goes for less*, as far as the sickness attaching to each class of labour is concerned. The Returns that follow, however, estab. the fact, that if there be, as there certainly is, a difference in the amount of sickness undergone by one class of labour as compared with the other, *it is referable chiefly to the amount of physical force called into action for its performance*.

For it became evident as the present inquiry proceeded, that, *while the influence of place and circumstance each had their weight, more or less, there was, in addition to or independent of them, some other more important influence acting on the amount of sickness*. It was observed that men might carry on their occupations with or without exposure to the weather; that they might pursue their callings in the midst of densely populated, or of sparingly peopled districts; that they might be located in the north, or domiciled in the south, without any very remarkable consequent variation in the quantum of sickness falling to the lot of each individual. *But as far as regarded the two sections into which the industrial occupations themselves were divided, there were to be seen very striking effects, closely corresponding with the physical effort, more or less, demanded by each class of labour, but which seem to be irrespective of all other considerations*. It therefore gradually became highly prob., that if there was any practical distinction to be made in the application of the knowledge arising out of the general inquiry, that it must rest mainly, and perhaps altogether, on the contrast visible between the sickness attendant on heavy labour, as compared with that accompanying the lighter occupations.

In view then of a practical utilization of the results thus far gained, the Proportion of Sick, the Average Amount of Sickness, and the Rate of Mort. among Males engaged in *Light Labour* was carefully prepared in separate abstracts. The same process was gone through in respect of *Heavy Labour*. The results elicited from this analysis will be best shown by dealing separately with the several heads under which the conclusions in respect of either are contrasted. [Read here the T. on p. 73.]

In the 1st sec. of this T. there is an almost uniform difference of 7 p.c. between the 2 cols. But reviewing the several sections of the T. as a whole, the first thing noticeable is the different amount of sickness falling to the lot of each class of labour, as well as the different liability to attack. "*But great as this difference is, it would have been much more striking had certain exceptional classes, such as Miners, Colliers, etc., thrown in their contributions of labour with that of the heavy labour class.*" The effect of the differences here shown may be well illustrated by supposing two Sos., each composed of 100 persons, 10 at ages from 20 to 80 inclusive; the one formed exclusively of persons engaged in *Light Labour* would be chargeable on the average with 1980 days' sickness p.a.; where the other, embodied out of persons occupied in *Heavy Labour*, would have to bear

demands for 2344 days' sickness in the year : showing therefore that the contributions should be 18 p.c. heavier than the other.

Age.	1. No. of Persons Sick out of each 100 Persons liable to Sickness.		2. The Average Amount of Sickness to each Person, expressed in Days.		3. The Average Amount of Sickness p.a. to each Person Sick, expressed in Days.	
	Light Labour.	Heavy Labour.	Light Labour.	Heavy Labour.	Light Labour.	Heavy Labour.
20	22'83	28'35	6'42	7'10	28'12	25'03
25	20'06	26'22	5'97	7'34	29'75	27'99
30	18'71	25'28	5'98	7'57	31'97	29'93
35	18'59	25'30	6'13	7'92	32'98	31'30
40	19'48	26'43	7'16	9'10	36'73	34'43
45	20'28	27'48	7'91	10'58	39'13	38'49
50	22'65	29'05	10'40	12'48	45'91	42'96
60	27'41	34'87	16'15	21'42	58'92	61'42
70	37'96	45'83	40'86	46'65	107'63	102'25
80	53'22	60'56	90'96	104'25	170'93	172'14
Total	...	...	197'97	234'41	...	...

That the effect of contrast between Light and Heavy Labour is greater than that arising out of the considerations appertaining to *geographical arrangement*, or *density of aggregation*, may be observed by a comparison of the different circumstances. Thus, at the age 32, which is about the age at which the members of F. Sos. are present in the greatest numbers, the average amount of sickness occurring p.a. to 100 persons engaged in *Heavy Labour* would be 755 days; in *Light Labour* 577; difference 178 days. Or, in other words, the sickness occurring to persons engaged in Light Labour is to that visiting the men of more severe toil as 100 is to 130'85.

The average amount of sickness p.a. occurring to 100 persons in that *Geographical District* where it is at its maximum is 1100'87 days; and where it is at its minimum 945'43—difference 155'44 days. The ratio of the minimum to the maximum being in this case as 100 to 116'44.

And the average amount of sickness occurring p.a. to 100 persons in the two extremes of City, Town, and Rural Districts, where it is at its maximum, is 1040'44 days; and where it is at its minimum 967'38 days—difference 73'06 days. The ratio of the minimum to the maximum being in this case as 100 to 107'5.

In the contrast of *Labour* the increase of sickness therefore is 31 p.c. nearly; in that of *Climate* it is but 16 p.c.; while in the contrast of *Density of Pop.* it is but 7½ p.c. "*In point of discrimination as regards the construction of T. of contributions for allowances in sickness, the primary element for consideration seems therefore to be the distinction between the two great classes of labour.*" But Mr. Finlaison adds hereto :

It may, however, be matter for subsequent deliberation whether the contrast between each description of labour under exposure to the weather, or subject to no such aggravation, will justify or render desirable any further distinction in the rates of contribution; and to form some idea on this point, the ratio of each to the other within their respective classes is worth attention.

The materials furnished for this purpose are the following : the average sickness p.a. to each 100 persons engaged in *Light Labour* without exposure to the weather is 954'89 days; with exposure 852'88 days—difference 102'01 days. In this instance, therefore, the minimum sickness is to the maximum as 100 to 112 very nearly.

In the case of *Heavy Labour* the average sickness p.a. to each 100 persons occupied *without* exposure to the weather is 1081'22 days; *with* exposure 1065'37—difference 15'85 days. The minimum sickness being to the maximum as 100 to 101'49 very nearly—a scarcely perceptible increase.

Both these examples are based upon a consideration of the general average at all ages. "A proposal for a more particular discrimination between the classes of labour now in question would, however, gain nothing from any reference to its consequences at an age where the members are present in the greatest numbers, viz. at 32."

In the case of *Light Labour* the average sickness of those exposed to the weather is to the sickness of those sheltered from the weather as 100 to 106 only. In the case of *Heavy Labour* the ratio is reversed almost exactly: the average sickness of those who labour *without* exposure to the weather, to the sickness of those who work under exposure to the weather, being as 100 to 107. "At the age where a distinction in the contributions would most practically be felt by the contributing members and the So., there is therefore no substantial ground for a refined discrimination in the rates of payment, on the score of indoor or outdoor occupations."

Turning now to a point already raised in the earlier part of the Rep., it is seen that the increased ratio of the duration of the sickness to the liability to attack holds good in the contrast between "light" and "heavy" labour, with the same constancy that was found to prevail in all former instances. For example, the number of persons sick out of each 100 persons liable to sickness is shown to be as follows :

Age.	The No. of Persons Sick out of each 100 Persons liable to Sickness is		But the Average Amount of Sickness p.a. to each Person Sick is	
	Light Labour.	Heavy Labour.	Light Labour.	Heavy Labour.
	p.c.	p.c.	Days.	Days.
20	22'83	28'35	28'12	25'03
30	18'71	25'28	31'97	29'93
40	19'48	26'43	36'73	34'43
50	22'65	29'05	45'91	42'96
60	27'41	34'87	58'92	61'42
70	37'96	45'63	107'63	102'25

Thus (says Mr. Finlaison) "the impressions received on this point at an early stage of the inquiry are everywhere strengthened by the Returns; and the existence of some compensative agency taking effect on the duration of sickness in counterpoise to the liability to attack is gradually brought home to the mind. *In every shape in which the results have been contrasted, these attempts of nature to restore an equilibrium have been distinctly marked.* Such a constantly recurring tendency makes it difficult to disown its title to be considered as a principle approaching somewhat closely to the dignity of a natural law."

But when we approach the mortality attendant on each description of labour, "it is worthy of observation that it bears throughout an opposite relation to the average amount of sickness with which each class of labour is visited. For example :

Age.	The Average Sickness p.a. to each Person engaged at the ages under mentioned is as follows.		While the Mort. p.c. is found to be as hereunder stated.	
	Light Labour.	Heavy Labour.	Light Labour.	Heavy Labour.
	Days.	Days.	p.c.	p.c.
20	6'42	7'10	'76	'73
30	5'98	7'57	'81	'74
40	7'16	9'10	1'15	'94
50	10'40	12'48	1'59	1'42
60	16'15	21'42	2'79	2'43
70	40'86	46'65	5'94	5'04

It appears that the mort., as might be expected, is in relation with the duration or intensity of the sickness; "while the greater amount of sickness falling on the average to the lot of the heavy class of labour is caused by the frequency, although not the severity, of the attacks. The explanation of the greater immunity of those engaged in the more laborious occupations is to be found, no doubt, in the superior physical organization demanded for their pursuits."

The following Tables [on pages 75 and 76] bring out the results of the present inquiry in a more complete form than any of the preceding. By their means the comparative influence of climate and local circumstances is shown to be of varied force, and is exhibited in greater intensity than in the examples wherein the nature of the employment was not distinguished.

It is seen from the unevenness of the figures in these T. that the results are "unadjusted"; or in other words they are just as deduced from the data of the original Returns. Mr. Finlaison considers that "there is a good deal to be gathered from them justificatory of the rude experience and practice, through which the humbler sort of Benefit Clubs cling so very strongly to the rule *calling upon each member for one common rate of contribution*,—rejecting the refinements of a graduated scale. The average amount of sickness on the whole does not exhibit a very marked increase from the age of 18 until after the age of 35." He adds :

The liability to attacks of sickness certainly diminishes with the advance to mature age, at which point it begins to augment again. The per-centage is no higher at the age of 50 than 20: and at nearly midway between the two, viz. at the age of 32, it is at a minimum. But the duration of sickness, on the other hand, regularly increases with the age.

As the average amount of sickness has been shown to derive its increase more from the duration of the illness than the frequency of the attack; and as it is even more clearly evident that the mort. is in a constant ratio with the duration of the sickness; it is difficult to entertain the doctrine sometimes advanced, that the sickness and the mort. of a community do not follow the same line of march. There is far greater reason for believing that they advance together in line, when reference is carefully made to the mass of facts marshalled in the cols. appended to this paper. The inference that the two laws of Sickness and Mort. do not of necessity run *pari passu*, has been drawn perhaps from the less striking averages of the amount of sickness showed by each person. But when the returns of the amount of sickness to each person are carefully perused, the steady result of the mort. correspondent at each age shows that death is no remiss attendant on the couch of real sickness. A contrasting glance at the cols. setting forth the number of sick out of each 100 persons liable—in other words the prob. liability to attack—proves on the other hand that the "grim feature" does not bestow his presence in obedience to every casual invitation. But as might be expected, positive sickness and death, in the majority of cases, go hand in hand.

T. showing the Proportion of Sick Persons out of each 100 liable to Sickness in 8 several Provinces of England and Wales.

MALES ENGAGED IN LIGHT LABOUR.

Age.	Northern.	Manu- facturing.	S. Western.	S. Eastern.	Eastern.	Midland.	Welsh.	Metro- politan.
20 to 24	22'22	20'09	23'40	23'77	24'01	25'47	16'25	20'08
25 — 29	17'92	18'38	21'82	20'55	19'54	22'84	15'66	19'50
30 — 34	13'56	17'03	19'92	18'53	18'25	22'40	15'48	18'86
35 — 39	15'84	18'01	20'05	19'29	18'25	24'00	15'33	20'80
40 — 44	13'80	18'10	22'00	20'21	19'17	23'35	16'46	21'33
45 — 49	17'66	19'87	23'34	19'41	20'89	25'05	16'66	23'97
50 — 54	20'92	22'30	27'91	25'84	21'50	29'32	18'76	24'30
55 — 59	15'88	24'31	30'12	26'78	24'40	29'47	19'66	28'15
60 — 64	18'31	27'26	33'41	27'63	29'14	35'09	23'84	31'91
65 — 69	29'51	31'65	39'13	37'31	28'15	45'76	28'14	33'18
70 — 74	39'78	42'00	44'03	46'24	37'91	52'78	36'68	39'76
75 — 79	36'11	44'01	50'00	59'41	53'01	52'73	50'38	39'27
80 — 84	...	53'68	...	...	59'62	...	...	50'00

MALES ENGAGED IN HEAVY LABOUR.

20 — 24	20'61	22'75	30'40	27'87	31'03	30'60	22'62	29'85
25 — 29	19'73	21'86	27'21	26'20	27'74	28'78	22'61	30'03
30 — 34	19'43	21'75	26'01	25'86	26'48	28'39	23'22	27'55
35 — 39	17'64	22'34	26'34	26'94	27'79	31'17	23'07	27'76
40 — 44	18'50	23'44	27'59	27'79	29'11	30'74	25'24	30'53
45 — 49	18'63	25'93	30'17	28'17	33'30	31'65	27'18	29'77
50 — 54	20'98	28'37	33'07	27'62	31'07	33'84	27'06	33'02
55 — 59	28'73	29'67	37'11	31'97	33'81	35'63	28'08	35'02
60 — 64	27'89	34'14	40'99	36'23	36'66	43'59	31'16	37'26
65 — 69	34'87	39'45	47'76	42'23	42'76	49'30	35'76	49'02
70 — 74	37'96	46'61	52'27	51'45	44'57	58'05	49'97	56'60
75 — 79	41'18	61'52	62'50	64'07	38'14	55'43	54'66	60'34
80 — 84	...	72'81	49'21	63'08	...	66'67	55'32	...

T. showing the Average Amount of Sickness to each Person, in each Province, expressed in Days.

MALES ENGAGED IN LIGHT LABOUR.

Age.	Northern.	Manu- facturing.	S. Western.	S. Eastern.	Eastern.	Midland.	Welsh.	Metro- politan.
20—24	4'8207	5'4293	6'5557	6'6935	7'5339	7'3880	5'7444	5'3611
25—29	4'0503	5'6027	7'0586	6'6140	6'5471	6'7411	6'1912	5'2452
30—34	3'6699	5'8661	5'4682	5'7989	5'6326	6'8257	5'8169	5'4138
35—39	6'7657	7'0335	6'2004	6'5148	6'5213	8'3530	5'7791	6'5216
40—44	5'8716	7'2839	6'8929	8'1929	6'2613	8'5418	6'7316	7'4613
45—49	9'0854	8'6853	9'1557	8'1394	9'3466	8'5464	7'5462	9'7146
50—54	13'1000	11'5576	11'9418	13'0197	9'8959	14'4391	9'5020	10'9937
55—59	7'0750	13'6079	16'6901	15'7144	12'2500	17'7304	9'7857	13'5393
60—64	13'5436	20'1263	20'7466	15'6095	17'4678	20'6802	18'1306	17'3273
65—69	24'0055	30'9532	34'4295	28'4628	20'4653	45'7315	25'9030	23'6664
70—74	49'5376	59'2292	41'3341	43'3781	49'9928	68'2024	44'5699	28'3365
75—79	49'0000	74'0211	72'5740	71'2772	71'5964	69'4636	55'5263	41'4084
80—84	...	96'6177	...	...	105'3462	...	...	59'3846

MALES ENGAGED IN HEAVY LABOUR.

20—24	5'9424	5'6830	7'5860	6'9688	8'5322	8'1423	7'3758	7'6891
25—29	8'8826	6'6180	6'9742	7'5878	8'0291	7'2102	8'1847	7'9878
30—34	7'0626	6'5035	7'1201	7'4651	8'1718	7'7756	8'9242	7'8347
35—39	6'9945	7'2347	7'5129	8'5006	9'5932	10'0448	8'5905	8'4701
40—44	8'3958	8'3921	9'9383	9'5709	10'4724	10'0670	9'9649	10'6511
45—49	8'1160	10'9472	11'4707	11'5850	10'8278	12'3454	11'1117	10'8651
50—54	12'3744	12'3147	15'1651	11'9311	14'1184	13'9609	13'0995	14'8871
55—59	15'6211	17'9278	17'7792	16'4436	14'9162	16'5950	14'9902	16'3816
60—64	24'8555	24'6397	26'9395	24'8613	23'9762	28'5774	24'0456	20'2462
65—69	24'5920	35'4008	40'0242	32'0629	43'3987	33'0610	31'0029	36'2608
70—74	38'7737	63'2617	63'5682	60'7380	45'8876	57'5131	58'8703	57'2579
75—79	43'6471	112'9970	84'5036	98'7365	37'9588	94'0652	99'5431	51'9483
80—84	...	144'7631	56'4127	124'8003	...	144'7143	105'5319	...

T. showing the Average Amount of Sickness p.a. to each Person Sick, in each Province, expressed in Days.

MALES ENGAGED IN LIGHT LABOUR.

Age.	Northern.	Manu- facturing.	S. Western.	S. Eastern.	Eastern.	Midland.	Welsh.	Metro- politan.
20—24	21'6932	27'0265	28'0126	28'1564	31'3807	29'0079	35'3551	26'7051
25—29	22'5965	30'4796	32'3430	32'1832	33'5108	29'5206	39'5295	26'9047
30—34	27'0606	34'4511	27'4466	31'2997	30'8561	30'4740	37'5832	28'7124
35—39	42'7190	39'0469	30'9188	33'7785	35'7416	34'8104	37'6904	31'3543
40—44	42'5544	40'2543	31'3315	40'5485	32'6620	36'5841	40'8920	34'9827
45—49	51'4340	43'7107	39'2338	41'9258	44'7378	34'1131	45'2875	40'5328
50—54	62'6272	51'8372	42'7906	50'3790	46'0291	49'2410	50'6381	45'2438
55—59	44'4296	55'9690	55'4180	58'6689	50'2091	60'1707	49'7673	48'1049
60—64	73'9524	73'8374	62'0997	56'5000	59'9446	58'9274	76'0520	55'1993
65—69	81'3519	97'7850	87'9763	76'2946	72'6916	99'9382	92'0341	71'3189
70—74	124'5136	141'0220	93'8670	93'8178	131'8857	129'2256	121'5252	71'2705
75—79	135'6923	168'1760	145'1779	119'9833	135'0568	131'7414	110'2239	105'4533
80—84	...	180'0000	...	...	176'7097	...	...	118'7692

MALES ENGAGED IN HEAVY LABOUR.

20—24	28'8382	24'9776	24'9573	25'0056	27'5002	26'6107	32'6080	25'7578
25—29	45'0127	30'2778	25'6297	28'9599	28'9396	25'0531	36'2002	26'6035
30—34	36'3480	29'8948	27'3733	28'8635	30'8556	27'3840	38'4312	28'4359
35—39	39'6452	32'3845	28'5233	31'5509	34'5147	32'2305	37'2415	30'5093
40—44	45'3883	35'7593	36'0153	34'4412	35'9768	32'7486	39'4881	34'8829
45—49	43'5612	42'2153	38'0229	41'1237	35'7334	39'0035	40'8866	36'5026
50—54	58'9942	43'4044	45'8587	43'1953	45'4351	41'2538	48'4069	45'0839
55—59	54'3762	60'4186	47'9107	51'4304	44'1179	46'5778	53'3863	46'7762
60—64	89'1216	72'1759	65'7279	68'6252	65'4094	65'5531	76'6648	54'3420
65—69	70'5330	89'7429	83'8016	75'9232	101'4896	67'0566	86'6902	73'9779
70—74	102'1539	135'7226	121'6087	118'0594	102'9580	99'0710	130'9204	101'1555
75—79	106'0000	183'6897	135'2087	154'1028	99'5135	169'6863	182'1023	86'0857
80—84	...	198'8313	114'6452	197'8536	...	217'0715	190'7693	...

T. showing the Mortality p.c. in each Province.

MALES ENGAGED IN LIGHT LABOUR.

Age	Northern.	Manu- facturing.	S. Western.	S. Eastern.	Eastern.	Midland.	Welsh.	Metro- politan.
20 to 24	1'51	'69	'82	'75	'90	'89	'88	'91
25 — 29	'94	'61	'73	'80	'76	'88	'95	'82
30 — 34	1'10	'84	'65	'95	'71	'71	'96	1'05
35 — 39	1'57	'93	1'04	'77	'91	'82	'92	1'39
40 — 44	1'64	1'29	'98	1'18	'86	'80	1'14	1'54
45 — 49	2'04	1'44	1'04	1'32	1'33	1'18	1'23	1'64
50 — 54	1'48	2'11	1'42	1'34	1'82	1'50	1'49	1'99
55 — 59	1'78	2'54	1'87	2'35	2'34	1'97	2'43	3'06
60 — 64	2'32	3'30	2'77	3'97	2'47	3'39	2'16	3'30
65 — 69	5'40	4'90	5'14	4'47	4'74	4'42	4'14	3'74
70 — 74	7'37	6'58	5'41	6'76	5'76	8'27	8'29	6'34
75 — 79	8'33	9'77	6'34	7'92	11'90	5'45	9'70	9'90
80 — 84	...	13'97	...	...	13'46	...	...	8'77

MALES ENGAGED IN HEAVY LABOUR.

20 to 24	'61	'73	'67	'66	'75	'63	'99	'71
25 — 29	1'33	'65	'52	'81	'49	'64	'99	'94
30 — 34	1'21	'59	'71	'63	'90	'70	'75	1'25
35 — 39	'88	'96	'80	'63	'75	'70	'60	1'35
40 — 44	1'50	'97	'94	1'08	'93	'74	'98	1'59
45 — 49	1'80	1'38	1'10	1'26	1'10	1'08	1'22	1'43
50 — 54	1'58	1'80	1'58	1'15	1'32	1'25	1'29	2'12
55 — 59	3'00	2'66	2'14	2'02	2'14	1'85	2'16	2'70
60 — 64	3'01	2'96	2'87	2'12	2'32	2'31	2'08	3'44
65 — 69	3'80	4'40	4'03	4'10	4'67	3'64	4'16	4'08
70 — 74	5'80	6'02	4'38	4'47	4'12	6'34	7'57	6'92
75 — 79	7'69	11'41	8'93	8'33	8'08	8'70	10'43	5'17
80 — 84	...	17'39	18'25	15'38	...	7'14	14'89	...

Finally we come to the consideration of the *Special Occupations* already referred to, and which could not (for reasons stated) be combined with the ordinary occupations, forming the base of the preceding investigation, viz. *Mariners*, *Miners*, and *Females*. The first class (says Mr. Finlaison) pass their lives upon an element fertile of danger, to which the other contributors to F. Sos. are comparatively strangers. The second class work in the bowels of the earth, subject to the severest toil, and exposed to dangers of the most frequent, sudden, and fearful nature. The third class pursue occupations of a nature totally distinct from those followed by men—are subject to an important class of complaints for which there is no seat in the male organization—and are in a great measure protected by the delicacy of their sex from searching inquiry as to the extent and actuality of their sickness.

But besides these important classes, there are various trades and callings, some—in popular estimation—noxious to health; others *primâ facie* exposed to accident and danger. “It was considered highly desirable, and indeed absolutely necessary, on bearing in mind the large funds subs. for allowances in illness and old age by certain bodies exclusively composed of persons engaged in some of these occupations, to set forth the chances of sickness to which they appeared by the Returns to be subject.”

For these reasons the data supplied from the respective classes of persons employed as *Painters*, *Policemen*, *Railway Servants*; and also from the circumstances into which the employments of miners may be distinguished, viz. *Colliers*—a mixed class consisting of miners and colliers—and the *Metal Miners*; was separately abstracted. The sickness pertaining to these several classes of labour is shown in similar aspects to those displayed throughout the Returns. In order to bring out the results in simple form, the following comparison is made as to the sickness of these several classes as against the sickness experienced generally by all classes in E. and W.

T. showing the Number of Sick Persons out of each 100 Persons liable to Sickness.

Age.	Mariners.	Colliers.	Metal Miners.	Females.	Painters.	Police.	Railway Servants.	E. and W. generally.
20	16'89	36'44	23'23	25'26	24'82	23'91	31'00	26'62
25	15'61	34'94	20'90	22'60	22'72	24'50	33'06	23'94
30	17'96	34'98	28'65	22'39	21'49	31'33	33'94	22'57
35	18'86	35'39	32'50	23'87	22'40	29'10	34'11	22'38
40	17'89	35'21	28'92	24'41	24'98	30'03	32'23	23'26
45	20'51	38'96	37'56	25'96	29'54	35'81	32'10	24'11
50	22'27	38'80	36'87	26'43	34'20	36'51	30'43	26'00
60	28'00	50'52	58'62	29'27	31'63	...	41'76	31'07

From the foregoing it appears that, compared with the general standard, the liability to sickness among *Mariners* is extremely small indeed; that, contrary to what might have been expected, the *Females* are next in order of insusceptibility; and the *Painters* in the next degree of immunity. The *Metal Miners* present no remarkable bearing on one side or the other; while their brethren in underground toil, the *Colliers*, exhibit the maximum liability to attack. One feature peculiar to this last-mentioned class is the very nearly equal liability to attack at all ages from 20 to 50. This circumstance, and the heavy per-centage displayed, leads one to infer (says Mr. Finlaison) that much of the sickness is the result of what is commonly called “accident,”—although “negligence” would frequently be the more appropriate term,—and not the consequence of mere constitutional sickness. The liability to sickness among *Railway Servants* is also very great; nor is it much less among the Police. “Possibly the constant exposure to the elements, bringing about—particularly in the case of *Railway Servants*—that condition known under the highly expressive phrase of “weather-beaten,” has no little to do with the result.

Turning to the second point of inquiry as to these particular classes, we have a

T. showing the Average Amount of Sickness p.a. to each Person, expressed in Days.

Age.	Mariners.	Colliers.	Metal Miners.	Females.	Painters.	Police.	Railway Servants.	E. and W. generally.
20	5'24	8'85	8'22	8'58	7'58	7'42	8'00	6'88
25	5'21	8'92	6'43	8'03	6'48	5'64	8'63	6'83
30	6'59	9'63	11'00	9'00	7'16	8'47	9'93	6'91
35	9'02	10'31	11'68	10'28	6'42	8'17	8'89	7'14
40	7'99	11'53	11'97	10'09	8'46	9'98	10'91	8'21
45	11'41	14'91	19'46	11'27	14'78	19'85	12'15	9'34
50	13'41	21'53	21'04	13'15	16'83	27'95	15'23	11'49
60	24'55	26'49	44'40	20'66	18'34	...	15'45	18'73

Mr. Finlaison offers the following special obs. on this T.:

Here the *Mariner* continues to show the great superiority of his physical constitution, exhibiting no remarkable share of infirmity until after the age of 50. Common opinion, however, does not

hesitate to pronounce occasionally that the frame of the sailor decidedly breaks down before that age. This does not appear to be the case among members of this class who are contributors to F. Sos.; and if the opinion alluded to be well founded, as regards the mass, the effect must be brought about, as there is unfortunately but too much reason to believe, by the vice and dissipation of the less respectable portion. A climax of sickness peculiar to this class seems to occur at the age of 35, for which the reason is not very evident.

Next in order to the *Mariners*, in comparative exemption, are to be found the *Painters*. When the popular notions respecting white lead, painters' colic, "dropped hands" (a sort of palsy), etc., supposed to be the peculiar fate of this class of workmen, are brought to mind, the results of the Returns are unexpected. It may be remarked that this bus. is one of those that cannot be pursued otherwise than under the eyes of fellow-workmen, and cannot be followed in privacy at home.

The average sickness of the *Mining* class is heavy throughout; and more particularly so among the *Metal Miners*. The severity of the *Railway* employment also tells, at all the ages under 50. But in the case of the *Police*, it is principally shown in the marked increase that takes place after the age of 40: leading to an inference that the service breaks down its followers at an earlier age than any other of the occupations.

As regards *Females*, there is a large share of sickness dealt out to their portion, but it would require a more intimate knowledge of the relative social condition of this class of the persons comprised in the Returns before any speculation as to the cause could be hazarded. *Some experience in the transactions of Benefit Sos., however, enables me to state that the softer sex certainly do prefer their full proportion of claims for allowances in sickness, as members of Benefit Sos., while often it is very difficult to estab. whether their sufferings are commensurate or not with their complaints.*

Passing now to the third test in relation to these special classes, we have a

T. showing the Amount of Sickness to each Person Sick, expressed in Days.

Age.	Mariners.	Colliers.	Metal Miners.	Females.	Painters.	Police.	Railway Servants.	E. and W. generally.
20	31'02	24'30	35'39	33'96	30'54	31'05	25'00	25'86
25	33'38	25'55	30'76	35'52	28'54	23'03	26'10	28'53
30	36'69	27'52	38'39	40'21	33'31	27'03	29'25	30'63
35	47'84	29'12	35'94	43'04	28'67	28'09	26'06	31'91
40	44'69	32'74	41'38	41'33	33'89	33'23	33'85	35'31
45	53'63	38'26	51'80	43'42	50'05	55'42	37'85	38'74
50	60'19	55'49	57'08	49'74	49'20	76'57	50'06	44'18
60	87'68	52'44	75'74	70'59	53'84	...	37'00	60'30

Again we shall benefit by Mr. Finlaison's direct criticism upon the facts he had brought to light:

As the liability to sickness among the *Mariners* was less than the average common to the whole of E. and W., so also, in accordance with the universal result of this inquiry, is their average amount of sickness *greater*. In accord with the same principle, as the liability among the *Colliers* was very much greater than the average liability of the whole country, so is the average amount of sickness *less*. In these, as in all other cases, it is not because the average sickness p.a. to each person is of the amount specified in the T., that therefore the liability is greater, and the duration less, or *vice versa*, as the case may be. *It is because the duration counterbalances the liability more or less, that the average sickness returned is the result, and nothing but the result.* In the case of the *Metal Miners*, however, both liability and duration exceed the average for the whole country: and the result is therefore a very high rate of sickness to each person. In the sickness found prevailing among the metal miners, a climax occurs between the ages of 50 and 60, which is not visible in the above brief abstract.

Age.	Days.
50	57'08
51	61'06
52	70'27
53	83'31
54	94'30
55	97'25
56	118'04
57	116'71
58	111'68
59	88'75
60	75'74

Hence is given the annexed extract from the extended T. The average amount of sickness to each person of this class being as here shown. Again:

The climax at the age of 35 peculiar to the *seafaring* class also holds good, even in the duration of the sickness. It may also be remarked at this point that both in the liability to attack, and in the average amount of sickness to each person, there is a material diminution from the age of 20 to the age of 25.

Neither the *Painters* or *Policemen* show an amount of sickness to each person sick attaining the average, under the age of 40. At 45 and above the duration transcends the medium. The *Railway Servants* remain at the average. The *Females* exceed in amount of sickness to each person sick, the mean duration at every age. It is not easy to determine the real state of the case among this class for reasons already adduced.

It remains to review the *mortality* p.c. of these special classes, which is shown in the following T.:

Age.	Mariners.	Colliers.	Metal Miners.	Females.	Painters.	Police.	Railway Servants.	E. and W. generally.
20	'66	1'11	'65	'94	...	1'09	...	'74
25	1'71	'77	1'76	'92	1'55	'57	'52	'71
30	1'69	'84	'81	1'12	'88	1'35	1'18	'77
35	2'26	1'67	1'02	1'08	'87	1'77	1'00	'83
40	1'79	'96	'29	1'15	2'04	2'05	1'56	1'03
45	2'71	1'09	2'00	1'17	2'09	'68	1'63	1'21
50	2'48	1'70	1'84	1'26	2'87	6'35	1'74	1'50
60	2'79	3'96	2'61	2'52	6'06	...	5'50	2'61

The comparative paucity of data respecting these several classes has produced the irregularities here visible. "Their general tendency, however, with one or two exceptions, is to show that a much higher rate of mort. prevails among those exceptional classes than among those comprised in the returns for E. and W. at large. In some cases also, as for example the *Mariners*, the mort. is in strong contrast with the sickness prevailing among the class—the mort. being severe—while the sickness appears to be very light. The same with the *Painters*, where the sickness was by no means excessive, while above the age of 50 the mort. seems very heavy indeed. In the case of the *Metal Miners*, a very heavy per-centage of deaths appears above the age of 58, attended with great irregularity in the progression, from the paucity of facts. "But the T. of the mort. experienced by these particular classes is nevertheless worthy of attention."

The concluding passages of the Rep., and which embody the views of its compiler upon the facts as a whole, are as follows :

In the first place, the *Locality* in which a F. So. is estab. has something, but not much, to do with the average amount of demand that will be made for sick allowances upon the funds of the Inst. But as regards the position [*i.e. Occupation*] of the individual attacked with sickness, it seems to leave its distinctive features. The difference in respect of *Climate* is more strongly marked in each separate division of labour than in the combination of the two.

In the second place, the *Density* of aggregation, described under the terms of City, Town, or Rural Districts, seems to exercise little or no real influence.

But, in the third place, the *real practical difference in the distribution of sickness seems to turn upon the amount of the expenditure of the physical force*. This is no new thing, for in all ages the enervation and decrepitude of the bodily frame has been observed to follow a prodigal waste of the mental or corporeal energies. *But it has been nowhere previously estab. upon recorded experience that the quantum of sickness annually falling to the lot of man is in direct proportion to the demands on his muscular power*. So it would seem to be however. Therefore, whatever scientific invention of machinery to save the expenditure of bodily strength may be devised, *its production should be hailed as one of the greatest of blessings to the sons of toil, and not ignorantly condemned by the very class whom in reality it ultimately benefits*. A study of the following digest leads to the conclusion that the inventor of any engine which spares the physical energies diminishes the amount of human sickness in proportion as he, by means of his device, economises the labour of his fellow-creatures.

It will of course be understood that whatever positions may seem to be estab. in the treatment of the facts contained in the Returns, they are the result of statements furnished from that class of the community only which consists of contributors to F. Sos. It is not intended that the inferences which have been drawn should by any means figure as sweeping and irrefragable conclusions applicable to all classes of the pop.; although an opinion nevertheless may be fairly entertained that the results arrived at are not of a nature to be materially altered by any differences of social position, even were the most extensive means of observation available. The conclusions arrived at, however, spring out of facts supplied from the experience of one particular order of persons, with a view to whose benefit the investigation has been undertaken.

The practical pecuniary shape into which the information obtained has yet to be moulded, is a further duty requiring much deliberation, and no inconsiderable amount of labour. It will be my first care to prepare such proper and sufficient scales of contribution as can be adopted from the materials obtained. These were to form the subject of a special Rep., pub. in the following year, and then duly noticed. An acknowledgment of the services rendered by Mr. Henry Tompkins, of the office of the Registrar of F. Sos., concludes this introductory portion of the able document we have so fully reviewed.

Table of Adjusted Results of the Chief Features brought out in the preceding Inquiry—
(FINLAISON, 1853).

Ages.	No. of Persons Sick out of each 100 liable to Sickness.		Average Amount of Sickness p.a. to each Person—expressed in Days.		Average Amount of Sickness p.a. to each Person Sick—expressed in Days.		Mortality p. c.	
	Light Labour.	Heavy Labour.	Light Labour.	Heavy Labour.	Light Labour.	Heavy Labour.	Light Labour.	Heavy Labour.
13	18'00	23'57	4'3700	5'8113	23'1258	24'6573	'38	'73
14	19'02	27'03	4'7629	6'5654	25'0389	24'2908	'49	'55
15	20'01	28'54	5'1295	6'9923	25'6394	24'4992	'52	'54
16	21'11	28'99	5'3906	7'0015	25'5306	24'1529	'50	'65
17	23'06	29'78	6'0555	7'1013	26'2544	23'8457	'47	'65
18	23'39	29'63	6'3731	7'0417	27'2528	23'7671	'72	'65
19	23'25	28'89	6'4853	7'0950	27'8996	24'5566	'76	'68
20	22'83	28'35	6'4179	7'0959	28'1156	25'0266	'76	'73
21	22'32	27'89	6'3068	7'1890	28'2538	25'7722	'84	'72

Ages.	No. of Persons Sick out of each 100 liable to Sickness.		Average Amount of Sickness p.a. to each Person—expressed in Days.		Average Amount of Sickness p.a. to each Person Sick—expressed in Days.		Mortality p.c.	
	Light Labour.	Heavy Labour.	Light Labour.	Heavy Labour.	Light Labour.	Heavy Labour.	Light Labour.	Heavy Labour.
22	21'54	27'44	6'1660	7'2570	28'6327	26'4492	'88	'72
23	21'07	26'92	6'0929	7'2699	28'9127	27'0011	'77	'70
24	20'54	26'58	6'0194	7'2768	29'3093	27'3757	'74	'70
25	20'06	26'22	5'9684	7'3387	29'7480	27'9858	'76	'68
26	19'66	26'03	5'9411	7'3928	30'2135	28'3966	'73	'70
27	19'48	25'67	6'0687	7'4290	31'1477	28'9403	'76	'71
28	19'13	25'56	6'0970	7'5162	31'8769	29'4120	'77	'75
29	18'98	25'40	6'0592	7'5491	31'9212	29'7168	'80	'77
30	18'71	25'28	5'9796	7'5654	31'9671	29'9305	'81	'74
31	18'53	25'03	5'9414	7'5206	32'0654	30'0423	'86	'73
32	18'27	25'06	5'7748	7'5463	31'6058	30'1078	'86	'75
33	18'31	25'07	5'7408	7'6457	31'3579	30'4996	'88	'73
34	18'36	25'14	5'8917	7'7710	32'0945	30'9166	'87	'74
35	18'59	25'30	6'1306	7'9193	32'9831	31'3017	'90	'78
36	18'95	25'52	6'4702	8'1490	34'1358	31'9329	'95	'79
37	19'17	25'73	6'7305	8'3684	35'1137	32'5248	1'00	'80
38	19'27	25'91	6'9240	8'5782	35'9278	33'1034	1'08	'84
39	19'37	26'22	7'0492	8'7625	36'4013	33'4159	1'14	'88
40	19'48	26'43	7'1559	9'1025	36'7266	34'4348	1'15	'94
41	19'51	26'69	7'1838	9'4391	36'8219	35'3696	1'18	'97
42	19'65	26'84	7'3225	9'6769	37'2659	36'0497	1'20	1'02
43	19'78	26'97	7'5071	9'8413	37'9513	36'4913	1'20	1'03
44	20'02	27'13	7'6372	10'2870	38'1478	37'9202	1'24	1'08
45	20'28	27'48	7'9355	10'5762	39'1262	38'4943	1'31	1'12
46	20'47	27'86	8'2288	10'8111	40'2003	38'8090	1'31	1'20
47	20'99	28'22	8'7598	11'2118	41'7280	39'7281	1'37	1'25
48	21'49	28'60	9'2018	11'6872	42'8132	40'8637	1'42	1'31
49	22'08	28'86	9'8521	12'0573	44'6128	41'7756	1'51	1'34
50	22'65	29'05	10'3974	12'4801	45'9106	42'9551	1'59	1'42
51	23'30	29'26	11'0104	12'9477	47'2484	44'2444	1'66	1'47
52	23'76	29'69	11'5923	13'3124	48'7971	44'8408	1'77	1'51
53	24'29	30'20	12'2055	13'7391	50'2474	45'4945	1'88	1'59
54	24'55	30'63	12'6253	14'1729	51'4338	46'2751	1'96	1'85
55	24'99	31'18	13'1354	14'7445	52'5587	47'2910	2'13	1'92
56	25'35	31'79	13'7014	15'5511	54'0444	48'9160	2'34	2'14
57	25'60	32'34	13'8238	16'6521	54'0043	51'4859	2'43	2'29
58	26'06	33'11	14'3069	18'1720	54'8944	54'8859	2'63	2'40
59	26'79	33'96	15'1459	19'7776	56'5411	58'2381	2'75	2'30
60	27'41	34'87	16'1511	21'4153	58'9216	61'4158	2'79	2'43
61	27'98	35'60	17'2527	23'2393	61'6686	65'2798	2'85	2'50
62	28'78	36'33	18'8700	24'9854	65'5706	68'7815	3'09	2'61
63	29'49	37'16	20'5259	26'6735	69'6107	71'7739	3'09	2'85
64	30'35	38'35	22'5669	28'4801	74'3445	74'2664	3'56	3'19
65	31'24	39'69	24'6425	30'2534	78'8833	76'2332	3'86	3'50
66	32'34	40'87	27'2100	32'5361	84'1271	79'6001	4'12	3'75
67	33'57	42'40	29'7086	35'1748	88'4926	82'9678	4'60	4'16
68	35'04	43'35	32'9776	38'0270	94'1223	87'7161	5'13	4'48
69	36'06	44'53	36'6137	41'7366	101'5467	93'7371	5'31	4'90
70	37'96	45'63	40'8611	46'6526	107'6347	102'2489	5'94	5'04
71	40'22	47'37	44'6033	52'2168	110'8910	110'2323	6'43	5'34
72	42'05	48'88	48'9103	59'1383	116'3185	120'9959	6'66	5'67
73	43'08	51'53	52'7322	66'9898	122'4039	130'0064	7'14	6'09
74	44'56	53'28	54'9456	72'8668	123'2950	136'7509	7'55	6'67
75	45'10	54'47	56'8370	78'1977	126'0352	143'5594	7'55	7'58
76	45'85	56'37	60'3582	84'1791	131'6486	149'3308	8'76	8'35
77	46'77	58'01	66'1217	89'8373	141'3636	154'8660	9'04	9'40
78	49'10	58'61	72'8949	93'6064	148'4697	159'6996	9'77	10'79
79	51'65	59'35	82'4648	99'6599	159'6736	167'9096	10'00	11'62
80	53'22	60'56	90'9692	104'2469	170'9304	172'1398	12'15	13'39
81	54'55	61'45	100'3470	105'1627	183'9694	171'1471	12'09	14'63
82	55'69	61'74	105'9758	106'1074	190'2957	171'8479	13'37	16'04
83	54'87	61'47	104'3604	108'2783	190'1953	176'1542	15'24	16'11
84	50'45	61'70	93'2342	105'2808	184'8036	170'6276	17'54	17'30

1854.—In Aug. of this year there was printed by order of Parl.: *Copies of Further Rep. and T. prepared under the Directions of the Lords of the Treasury by the Actuary of the National Debt Office, on the Subject of Sickness and Mort. among the Members of F. Sos., as shown by the Quinquennial Returns, to the 31 Dec. 1850, received by the Regis. of F. Sos. in Eng. under the provisions of the Act 9 & 10 Vict. c. 27.* This is known as Mr. A. G. Finlaison's 2nd Rep. The compiler says :

In opening the subject it is to be explained, that three very important elements are involved in the construction of the T. herewith submitted. The first of these is the law of sickness which governs, or probably governs, the claims likely to be preferred for allowances on this score by the class of persons forming a F. So. The second is the law of mort. regulating the prob. of future demands for pensions in old age, or for the payment of sums on the extinction of life. The third element is the rate of int. at which it is likely the contributions received from the members will improve as they are paid in and laid up for accumulation. It is obvious that the adoption of any one of these bases is a measure requiring the greatest circumspection in reference to the nature of the interests affected, and their prob. duration.

1. *Sickness*.—The Law of Sickness, “the first subject for consideration” had been deduced from the data fully described in his Rep. of the preceding year, already reviewed in detail. The results “naturally have been looked to as likely to supply, with a high degree of probability, a truthful measure of the sickness to which the members of the F. Sos. of this country are subject, not only from the nature of the experience itself, but from the vast scale on which it has been returned. On the latter ground it certainly is entitled to weight. Accordingly, from this storehouse of facts, after due assortment, were drawn the materials of the accompanying T. ; and it now falls to be explained into what arrangements sufficiently comprehensive, without being superfluously multiplied, the different descriptions of facts have been arranged.” Mr. Finlaison adds :

After patient examination of the Returns, conducted with reference to ideas which had obtained favourable reception in various quarters conversant with similar inquiries, it was found that certain circumstances which were considered as having great bearing on the question of the prevalence of more or less sickness, had little or no influence at all. For instance, it was estab. that *locality*, although exercising a certain virtue perhaps on the position of an individual member attacked with sickness, had not very much to do with the average amount of demand which was likely to be made on the funds of a F. So. Nor, from the greater or less density of the aggregation of human beings, as assembled in a city, town, or rural districts, was there any decided pressure on the sickness of members of F. Sos. observed to prevail under any of the above arrangements, in accordance with notions which had previously obtained favourable reception. The only real practical difference in the distribution of sickness that could be discovered was seen to turn on the amount of physical force called out by the occupation of the contributors ; other features of the employment, and the circumstances of place, or of shelter or exposure under which that occupation was carried on, seeming to have but very minor influence on the question. Another consideration induced the adoption of the one broad distinction which attaches to the several classes of occupation. The man and his peculiar work are rarely disunited. His particular craft is his only livelihood and means of contributing to his club. Therefore, while it is extremely possible that the workman may at one time exercise his calling under shelter from the weather, and at another time under exposure to the elements, or may pursue his employment in city, town, or country, changing from one place to another as his case may require, yet the amount of demand on his physical strength, and the general effect of his employment on his health, will usually never vary while he continues his regular pursuit. And a change from one craft to another, or the employment of a mechanic in two trades at one and the same time, are cases so rare that it is not worth while to speculate on their existence. If any distinction of occupation was therefore to be drawn, after the law of sickness affecting the whole mass of contributors to F. Sos. had been made use of, it was found that it would be of practical worth only, in the separation of that class of labour which demands but slight physical effort in its exercise, from that description of labour which necessitates very powerful muscular exertion.

Accordingly the first set of T. in the present Rep. are based upon the sickness among the members of F. Sos. generally in E. and W. without reference to occupation ; and the second and third sets upon the sickness prevailing respectively among the two great classes employed in what, “for want of better terms,” have been called Light and Heavy Labour. Here is the result :

From the Age.	IN GENERAL LABOUR.		IN LIGHT LABOUR.		IN HEAVY LABOUR.	
	The No. of Days' Sickness is	Average No. of Days per Ann.	The No. of Days' Sickness is	Average No. of Days per Ann.	The No. of Days' Sickness is	Average No. of Days per Ann.
15 to 16	6'21	6½	5'13	5	6'99	7
16 — 21	33'77	6¾	30'72	6	35'34	7
21 — 26	34'32	6¾	30'55	6	36'33	7½
26 — 31	34'54	7½ {very	30'14	6	37'45	7½
31 — 36	34'61	7½ {nearly.	29'48	6	38'40	7½
36 — 41	39'08	7¾	34'33	6¾	42'96	8½
41 — 46	44'14	8¾	37'59	7½	49'82	10 {very
46 — 51	52'67	10½	46'44	9¾	58'25	11½ {nearly.
51 — 56	64'83	12¾	60'57	12	68'92	13¾
56 — 61	82'26	16¼	73'13	14½	91'57	18¾
61 — 66	118'26	23½	103'86	20¾	133'63	26¾
66 — 71	180'28	36	167'37	33½	194'13	38¾

Mr. Finlaison calls attention to the fact, that in add. to the general class of members, which he has now divided into two sections—*Light Labour*, and *Heavy Labour*—there were included in the Returns before him 4 “highly exceptional” classes which were “insusceptible of classification with any other calling; but in which nevertheless, there are to be found very considerable bodies of men having their own peculiar Benefit Sos.” These were *Mariners*, *Miners* and *Colliers*, *Painters*, and *Railway Servants*, “who are perhaps persons bearing a strong affinity in their general circumstances to the class of Policemen.” For this last-mentioned class, therefore, as there was to be found but little difference between them and the Railway Servants, no distinct T. was thought necessary. “In each of the 4 exceptional classes alluded to, there are either large clubs, or there are numerous asso.; and it was considered desirable therefore to provide T. for their guidance in respect of sickness allowances.” There were also two other classes in respect of whom what facts there could be assembled were tabulated both in reference to sickness and mort.—these consisted of *Females*, and the *S. Western Metal Miners*. “But in neither case did the data appear to me sufficient to render any pecuniary deductions which could be proved from them satisfactory.” Under these circumstances the seven different laws of sickness shown by the experience of the mass, and the two great classes of labour—in add. to that of the 4 exceptional but important classes—were deemed sufficiently numerous and comprehensive bases for T. suited to the wants of persons forming Benefit Sos.

Among the F. Sos. of this kingdom, Mr. Finlaison remarks, but comparatively few are regulated by T. closely graduated according to age. *On the contrary, the great majority are formed upon the plan of obliging the members to contribute each the like sum.* “In the towns and places where higher wages are to be gained, the common contribution generally is 4d., 5d., or 6d. a week; and in the rural districts ranges from 2d. to 4d. weekly. This rough mode of contribution, although rude in form, is extremely popular in the eyes of the unskilled associates of the Benefit Clubs, from its simplicity and apparent fairness.”

From experience it may be affirmed with confidence that nine out of every ten estab. F. Sos. of the second order, reckoning the great County and Metropolitan F. Sos. as the first, are framed upon the principle of paying to the fund, one sum, every man alike. The inclinations and the prejudices, if they be prejudices merely, of the vast body of contributors, are therefore enlisted in favour of this mode of mutual assurance; and any advice for the adoption of a contrary method in the way of a graduated scale is generally received with considerable impatience, and almost always with neglect by clubs which are independent of extraneous influence.

Most popular practices, even when apparently unreasonable, will be found upon investigation to contain some good reason for their adoption, although they may be carried too far and used without discretion. A careful consideration of the information obtained from the F. Sos. Returns will show that the course to which popular judgment has from the beginning inclined in the adoption of one common rate of subscription has *not* been altogether without justification in the rude experience of the contributors.

On an attentive examination of the amount of sickness p. ann. falling to the lot of each person, it will be seen that there is scarcely any perceptible increase in the quantum of the sickness from the age of 15 to that of 40, which is a period of 25 years; and that the subsequent increase in the ensuing 25 years from 40 to 65, although material, is by no means formidable. On the other hand, after 65 years of age the greatly augmenting sickness shows that the constitution of most men begins to be unequal to the continuance of physical toil.

It is further remarked hereon:

For four out of the five decades into which life between the ages of 16 and 66 may be divided, the difference in the average ann. sickness per man has been too slight perhaps to attract the attention of any but systematic observers. And, as regards the increase of the sickness in the fifth decade, although not unimportant, it seems to have been generally disregarded. Up to the period of age, viz. 45 years, beyond which 99 out of 100 Benefit Clubs close their doors to the admission of candidates,—and indeed most of them admit no new members above the age of 40 years, an age which is often practically interpreted to mean as not turned the 41st birthday,—the increase in the ann. amount of sickness is positively immaterial.

In reference to the quantum of sickness undergone in the 50 years of what is termed “working life,” and the distribution of that quantum, the following interesting features are brought forward:

If we survey the half century of time which is comprised between the 16th and 66th years of age, it will occur to the mind that this is precisely the interval of life during which man is destined to labour. Between the ages of 15 and 16 the lad has usually entered upon some calling for his future subsistence, and his labour has acquired some value. On the other hand, at 65 to 66 years of age, the constitutions of most men become unequal to the continuance of physical toil. 65 is the age fixed upon as the prob. period of retirement from the public service. It is also generally estab. among F. Sos. as the age at which allowance in sickness should cease, and at which a permanent provision or pension in old age should commence. The half century comprised between adolescence and old age there can be no doubt is the most important and significant portion of the life of man. The distribution of the sickness allotted to each individual during this period is of an equally striking character. Thus:

On an examination of the amount of sickness p.a. recorded for the whole mass of male members of F. Sos. from the age of 15 to that of 85, beyond which period no information was supplied, it may be premised that almost 5 years of sickness is undergone by the man in the 70 years of time. *But during the period of labour, that is from the commencement of the 16th year of age to the close of the 66th, there is in this 51 years but 78 weeks—or*

exactly 1½ years sickness. Further, in respect of this period of labour, the sickness during what may almost be termed its second moiety, viz. from the age of 41 to that of 66 years, is almost exactly the double of that undergone in the previous moiety—from the age of 15 to that of 41 years. For the sickness during the first 26 years of manhood is exactly half a year, or 182½ days; while it is 362½ days, or almost exactly one whole year, during the next ensuing 25 years of maturity.

The foregoing results seem therefore, says Mr. Finlaison, “to indicate a law on this point; and to estab. the conclusion that the sickness undergone during the first 25 years of working life is the exact moiety of that distributed over the second 25 years.”

In the aggregate the working man has to provide by his contributions the sickness allowance which he shall deem necessary to supply his wants for 78 weeks during his prob. working and wage-earning period. As regards the individual it is clear from what we have seen that where he should pay for this purpose 1s. a week during his first 25 years or so, he should pay 2s. p. week for the next 25 years. “And as regards the club, and in the long run himself too, if he enters young, it comes to pretty much the same thing if he pays 1s. 6d. throughout the whole period.”

The equitable adjustment of the *entrance fee* as between the candidates of various ages and the youngest limiting age of admission “therefore becomes a matter of simple and easy computation, when the common contribution is once determined.”

Thus it is to be perceived, Mr. Finlaison again remarks, that “although doubtless the adoption of a graduated scale of payment is to be preferred, a sort of ground does exist for the practice of exacting one common average rate of contribution. Nor is well-established experience of its perfect success wanting, as several instances can be adduced of Sos. founded in the earlier half and middle of the last century, which are still in effective operation on this principle.”

Further investigation and comparison shows that in the 70 years of life which are passed after the male has entered upon the period of Labour, the sickness undergone by the class devoted to *Heavy Labour* is, on the whole, *on. year* more in time, while it is in the proportion of 11 to 9, as compared with that amount of sickness which is undergone by the class employed in *Light Labour*. This is a very great difference; the sickness of the one class being but 82 p.c. of that of the other.

In the first portion of the period of life devoted to labour the difference is still more striking. It appears that by the time the male employed in *Heavy Labour* has attained his 39th birthday, he will have undergone 180 days or half a year's sickness. But the male employed in *Light Labour* will not be found to have undergone the same amount of sickness until he has arrived at his 44th birthday. In the first case the one has suffered half a year's sickness in the first 24 years of his working life, while the other passes through 29 years before he has undergone the same amount of suffering. In the second phase of the working life the amount of sickness undergone is not so very unequal in reference to time, 24½ years of life in the class of males employed in *Light Labour* being productive of 365 days or one year's sickness, while 25½ years of working life is required to show the same number of days' sickness among the males employed in *Heavy Labour*. And in respect to time the case here is somewhat in favour of the *Heavy Labour*, but not so in respect of age.

The second period of working life, in which the male employed in *Heavy Labour* undergoes the 52 weeks of sickness to be looked for in that space, is completed by the time he has attained his 64th birthday, and has entered upon his 65th year of age; while the male employed in *Light Labour* has not suffered a similar amount of sickness until he is about to enter his 69th year of age. Consequently, if immunity from sickness is any test of vigour of constitution, the male subsisting by the lighter employments has five years more stamina in him, as it were, than the male following the more laborious class of occupations; seeing that the latter at 39 has undergone as much sickness as the former at 44, and will have suffered more in the same way by the time he is 64 than the other has by the time the latter is in his 69th year.

Again, it has been already shown that from 15½ to 65½ years of age a man of the class employed in *Light Labour* undergoes, in the 50 years of working life, but 467½ days' sickness; where, in the same 50 years, a male of the class engaged in *Heavy Labour* is visited with 581 days' sickness. Where the former, therefore, should pay for allowances in sickness, during the working period, but £1 p. ann. in the way of contribution, the latter ought to pay yearly £1 4s. 10½d., or nearly 25 p.c. higher rates.

Practically viewed, therefore, where the common rate of weekly contribution for allowances in sickness during the working period is fixed at 6d. for the member engaged in light occupations, his comrade, employed in *Heavy Labour*, should pay one-fourth more, namely, 7½d.

As this difference, Mr. Finlaison points out, is of substantial consideration to the class of persons from among whom Benefit Sos. are usually formed, *no less than to the prosperity of the clubs in which one or other class of labour may preponderate, it supplies strong reasons for separate T. of contributions having reference to the kinds of employment.* Further:

In forming and maintaining a F. So., it would be desirable, no doubt, theoretically speaking, to limit the admission of members to one or other class of occupation. But as this cannot always be

effected in practice, *care should be taken, where members belonging to the class of workmen employed in Heavy Labour form a small proportion of the So., that at least the Tables drawn from the experience of the general mass should be made use of by the whole Club.* Where the same class of men are present in superior numbers, the T. based on the facts given by the persons employed in Heavy Labour should be adopted, and none other. Where none of the members are employed in any other occupations than those which are of a light nature, the T. deduced from the returns in the Light Labour class may prove sufficient. But those rates which are framed from the experience returned from the class employed in Heavy Labour are the safest of all, because those scales which are adapted to the greater risk will always comprehend the less.

The consequences of neglect of these precautions have been disastrous too frequently. He adds :

On grounds analogous to the above, T. founded on the experience of those classes which were considered as exceptional, namely, *Mariners, Miners, Railway Servants, and Painters*, should exclusively be made use of in respect of the benefits desired by persons following these occupations. In these cases the expediency of forming Sos. of members of these respective callings only, and of shutting out all other classes, is more urgent, and there are few or no practical difficulties in the way of following counsel to this effect. The classes in question, with the exception possibly of the *Painters*, are generally found together in sufficient numbers to form associations of their own, in most places where the benefits of a F. So. might be desired by an individual following any one of the employments in question. Occasionally, however, this may not be the case; but the T. framed for the use of any one of the classes alluded to should always be taken as the measure of the risk entailed by any particular contributor following these more hazardous pursuits.

The Rep. before us contains special T. for several of these classes, as will hereafter be seen.

Mr. Finlaison expressed his regret that facts relative to the sickness of *Children and Females* were not obtainable in greater numbers from the Returns, and that, where information on this point was supplied, it was of a scanty and unsatisfactory character. There are nevertheless, he added, many funds existing for the payment of allowances in sickness to or on behalf of children, which have been formed among the Sunday and other schools in the great provincial towns, and from the experience of these F. Sos. of a very peculiar class, it was to be hoped that data would be forthcoming on some future occasion.

Speaking of *Females* more at large, he said that there was much reason to believe that the sickness experienced among them was "heavier in amount than that undergone by the males;" and he adds :

But unfortunately mention was hardly made in the Returns of the nature of the occupation in which women were employed. And looking to the striking influence which this consideration displays on the amount of sickness undergone by the males engaged in either class of labour, even still more remarkable effects might have been expected to develop themselves in the quantum of sickness undergone by females engaged in various employments. *It would have been extremely interesting to note, if possible, whether the difference existing between the constitution of either sex presented any influence in relation to the different amount of sickness undergone by the Females, and at what particular periods of life; and if there were, in fact, any material excess of sickness really suffered by the weaker sex over that undergone by the male during the period of working life, and also during the 70 years space elapsing after the age of 15, so as to place them on unequal terms with the male contributors to Benefit Sos.*

There can be no doubt that in practical experience the demands made on the funds of the Benefit Clubs for allowances in sickness are heavier when preferred by the *Female members*. But this may result from two causes, namely, the greater difficulty of searching examination where the delicacy of the sex is respected; and the greater facility of simulation of slight derangement of the feminine system.

The more precise determination of the amount of real sickness undergone by the Female members of F. Sos. therefore is still a desideratum. It can only be brought about effectually perhaps by the growth and encouragement of funds for allowances in sickness which *shall be formed for the benefit of females exclusively*; and in which careful record of the age, occupation, and other necessary particulars, will be made in respect of each member, and from which trustworthy statements of this information can be obtained. *The distinction of sex should also be carefully observed in framing any returns from School F. Sos. formed among children.* But in the absence of better data than is now possessed in reference to the female sex and to the very youthful contributors to the above asso. there exist insuperable difficulties in the way of constructing T. of contributions *precisely applicable to the amount of risk incurred.* It is to future observation, therefore, that the community must look for the means of more accurately providing those benefits in sickness which are as requisite to the relief of the industrious females, and the parents among the working classes, who may be suffering under a calamitous source of expense, as they are necessary to the wants of the provident males of the same order of society.

Finally, under the first head *Sickness*, there are the following add. paragraphs :

It must also be admitted that there is room remaining likewise for the store of yet further knowledge on the nature and amount of sickness prevailing among the male members of F. Sos., notwithstanding that the immense heap of facts lately collected from the Returns may seem sufficiently extensive to render any further inquiry superfluous. *For it must be remembered that the experience now obtained, although very great as regards the number of individual cases, is but very brief as regards the time over which the obs. extends.* The data, although of the first class in point of authenticity, is drawn from the events of no more than 5 years; those 5 years, moreover, were 5 years of peace and plenty; of brisk demand and good wages.

But in such a contracted period, *scarcely time sufficient is afforded for the occasional variations unhappily too attendant upon a variable climate*; and on the other hand should such calamities as pestilence or scarcity come round, the span in question is too cut to render any measure of events obtaining therein otherwise than exceptional, in consequence of the very presence of those evils. In short, for want of a sufficient cycle, the brevity of the period in some degree weighs against its claims to present an experience that shall yield a perfect and unquestionable average. It is with great deference submitted, therefore, that *it would be inexpedient to accept the late digest of the Returns as an altogether complete and conclusive representation of the case, to the exclusion of any further information whatever from the subsequent experience derivable from the very same institutions.* On the contrary, one would rather earnestly hope that the singular and unexpected results which have

already been obtained will lead to a demand for further knowledge, and to a course investing the present facts with still greater value, through a continuance of the obs., until its extent in point of time shall put it completely beyond question on the score of its insufficiency of duration.

2. *Mortality*.—Mr. Finlaison places the Mort. of F. Sos. as second in importance to their Sickness experience. “Blended with the law of sickness, it leads to the estab. of the exact worth of the allowances to be guaranteed during the continuance of illness; it also is the actual foundation of an accurate appreciation of the other benefits commonly sought by the members of F. Sos., such as pensions in old age, endowments, and the payment of sums at death. It is highly necessary, therefore, to be extremely circumspect in the adoption of a measure of probability which so largely controls the value of all the engagements entered into by Benefit Sos.” (p. 9.) He adds:

It is to be observed in reference to this branch of the subject, that the facts supplied by the returns are plentiful, chiefly about the younger and middle portions of life; the data then diminishes gradually on either hand, from adolescence downwards to infancy, and from advanced age upwards to the extremity of life, until there are few or no facts available under the age of 15 or above the age of fourscore. These deficiencies are not of very great importance, as far as regards one particular class of benefits, namely, the sickness allowances, because these are chiefly drawn and paid for during the working period of life, at which the information requisite for their valuation is most copiously supplied. *But the absence of facts during the periods of very early life and old age is material, as we are then compelled to draw on other resources for the means of determining the worth of pensions in after-life, and of sums payable at the death of adults and children whenever such event may happen.* Usually, and indeed, practically speaking, always, the class of engagements referring to sickness may be considered as of a temporary nature. Not so the pensions and assurances, the contracts for which are generally of a more permanent description. In respect of the allowances in sickness, therefore, there may be no very great difficulty in adopting for their valuation a measure of the prob. of life drawn from statements extending no farther than the facts given for the estab. of the law of sickness, and supplied *pari passu* from the same source, as its effect expires simultaneously with the provision of which it regulates the price. And if the mort. should be so low as even to appear *abnormal*, as the allowance in sickness is in the nature of a life annu., the greater the prob. of life, the higher will be the cost of the benefit, and consequently the greater the security of all parties in the heavier charge made on the contributor.

He further says: In truth the facts yielded by the Returns in the mass were of such a nature as to present a law of mort. *more favourable to the circumstances of the members of F. Sos. throughout E. and W. than is found to govern the position of classes supposed to be the most highly selected.* “For instance, if we compare the case of the male contributors to F. Sos. in general with that of the males of the Great English Tontine of 1789, who were, it may be said, the flower of the English gentry, and with that of the males of the Gov. Life Annuitants, who were a class of persons in easy circumstances, we find that the number of persons out of which *one* would be taken off by death in the year of age undermentioned, was—

Age.	Tontine (1789).	Gov. Males.	Members of F. Sos.
15	125	169	188
25	76	71	141
35	90	81	120
45	81	73	83
55	41	40	49
65	24	25	27
75	10	13	13

This state of things had been previously observed on a much more limited scale elsewhere, and when the conclusions came out in favour of the members of F. Sos. in yet even a higher degree, the result was accepted nevertheless as an accurate exposition of the true law of mort. prevailing among the class of persons supplying the observation. In due course also, various reasons were adduced why the poor lived longer than the rich, and why persons residing in crowded dwellings, without full command of medical assistance, suitable diet, and wholesome air, should die in smaller proportions out of the same number, than their fellow men, placed, apparently, in the most advantageous circumstances. But Mr. Finlaison considers that the case was not sufficiently sifted, nor the truth stripped of its husk, as he thinks the following considerations will estab.:

In the first place, on this particular point the Returns from F. Sos. *present results obtained from a shifting pop., which is subject to observation but for a very brief space of time.* The event which is the object of remark, unlike sickness, happens but once, and to be taken note of at all, must fall within this very limited period. In the case under inquiry, moreover, the number of members excluded or withdrawing p.a. is very considerable, and bears an overwhelming proportion to the mort. For example, in the 20 years of life elapsing from the age of 21 to that of 41, the number of persons withdrawing are very nearly 5 times the number of deaths: being 17,801 exclusions and departures to only 3676 deaths. In fact, above 5 p.c. of the members present, between the ages of 20 and 30 years, are constantly migrating from their clubs. As the age of the members increases these departures become fewer, for very obvious reasons; and above the age of 60 their previous relation to the mort. becomes reversed. *These causes, which lead to a misapprehension of the mort., cease in a great measure to operate at the higher ages.* But it is easy to see that in younger and middle life, a certain portion of the contributors are merely in transitu always through the So. Again, the obs. deals with a certain body of men of which the mass are persons who are young and in the vigour of life. *A space of 5 years, which is the whole time under notice, is an extremely limited space as regards each individual: and does not yield the true and normal law of mort., which rules the fate of those members who, exclusive of the migrants, adhere from first to last by the club which they joined for good and all, on their admission.* One simple illustration will at once convey the force of the foregoing objections in a familiar shape, and put in contrast the value of an experience, short in point of time, notwithstanding that large numbers may be concerned, with an

obs. stretching over a long course of years, although relating very possibly to a smaller collection of individual cases.

Of all the multitude of persons who, in the course of a year, travel on the great railway line from London to Liverpool, how few, if any, are recorded as dying in the course of transit? Yet they are of all ages, and are a vast body of people. And were we even to club with the travellers the whole corps of railway servants employed on the same line, how very light would still be the mort. observed to take place. *The infinitesimal number of deaths recorded would represent neither the mort. of the travellers, nor of the railway servants, nor of the whole mass correctly; and it would appear to be incredibly small if ascribed to the general body.* Yet nobody will believe that fewer railway travellers die than are buried of the same number of persons who stay at home. Nor will any reasonable person suppose that, because the facts are recorded with the most scrupulous accuracy in regard to the immense mass—and but few or no deaths are regis. as having occurred while it fell under obs.—that therefore the people composing that mass do not die in much the same numbers, and with the same regularity as the rest of the world. The truth is that although the proportions are not the same, the migrating members are in much the same category as the railway servants, in every assemblage of persons who are not kept together for the purpose of obs. for a long course of time. And for reasons completely analogous to those attaching to the Benefit Sos., the experience of the ins. offices, unless very carefully observed and presented, is also apt to lead to delusive conclusions; *as usually from 60 to 70 p.c. of those assured in early manhood will be found to take their departure in the first ten years after effecting their policies: swelling the vitality, therefore, while present, but finally contributing their quota of mort. elsewhere.*

Mr. Finlaison considers that while the low rate of mort. shown by the mass of Returns from F. Sos. is susceptible of ample explanation on the above grounds, its variation from other more accurately deduced observations is not, when reduced into pecuniary form, so extremely important, as to disqualify it from acceptance *quoad* the use to be made of it in setting out the values of the sickness allowances, which are themselves temporary life annuities. “Further, as the nature of the variation alluded to tends to the ultimate security of the objects of the contributor, and, above all, as it was imperative to make use of the facts as returned by the Sos. themselves, where no insuperable difficulty prescribed their rejection, the information obtained in the mass from the whole Returns from E. and W. was adopted as the basis of the allowances in sickness to all classes.”

On the other hand, *the causes of uncertainty already alluded to were considered sufficient grounds of objection to the use of various laws of mort., based respectively on the classifications laid down in respect of sickness.* And it was also deemed to be inexpedient to employ the law of mort. derived from the general mass of Returns as a basis for the computation of the values of pensions and life assu., eligible as it might be, nevertheless, for the valuation of the sickness allowances. This opinion was adopted on the following considerations:

The present value of an annu. which is to commence immediately, and to continue for the whole of life, consists of the sum of all the separate discounted rents which will annually be forthcoming to the last year of existence. This aggregate of the rents may, however, be divided into two portions, one of which is composed of all the yearly payments forthcoming from the present moment to some future specified age, while the other portion is made up of all the remaining yearly rents receivable after the specified age agreed upon. The first of these two portions into which the whole value of the life annu. is divided is termed the temporary life annu.; the other portion is called the deferred life annuity. Now, as the last-mentioned benefit has to be paid for during the currency of the temporary life annu., when the consideration assumes the form of an ann. or monthly prem., the dimensions of the monthly contribution greatly depend on the relative values of the two annuities, temporary and deferred.

To be secure in the grant of allowances in old age, therefore, care must be taken not to underrate the prob. duration of the final portion of life, nor to overrate the intermediate prob. of surviving each year in succession until that final portion is entered upon. Considered as a temporary life annu. merely, there was, however, ground for viewing the prob. of surviving each year, derived from the general returns, as excessive and therefore insecure, for the purpose of providing the pensions.

But there was a further difficulty. It has been mentioned already that the facts indispensable to the construction of a complete law of mort. from infancy to the close of life, fell off as the ages receded on either hand from the period of manhood and mature life, until there was no information at all at the two extremes of the chain. “As the pension in old age is a benefit, the receipt of which ceases only with life, and as nothing but death determines the fulfilment of the contract for life assu., it is obviously an indispensable preliminary to the calculation of the values of the above-mentioned two benefits that the law of mort. should be completed throughout the whole span of human existence. And for the reason also that the present value of a life annu. and a life assu. are manifestly in an inverse ratio to each other, it becomes equally necessary that some medium law of mort. approaching as nearly as possible the prob. truth should be adopted, in order that the cost of neither benefit should be under or over charged.”

The exceptional classes are next referred to—the *Mariners, Miners, Colliers, Painters, Railway Servants*, and some others. These displayed high per-centages of deaths, and were therefore omitted from the abstracts showing the mortality of the general mass—“although persons engaged in the pursuits thus omitted are to be found contributing to Societies in various parts of the country.” “Further, the mortality stated in the Returns was carefully sifted into abstracts, *which stated the per-centage of deaths relating to males exclusively*—the statements relating to the *Female* sex having been carefully separated from the foregoing, and shown elsewhere.” And contrary to the normal law prevailing on the great scale, as between the two sexes,—and which, upon considerations that will suggest themselves, must be received as an estab. general law of nature—the *mortality of the Females, as shown by these statements, was heavier at all ages below*

45 than the average deaths *p.c.* of the males. But Females are contributors very frequently to F. Sos. formed not only of their own sex exclusively, but also of persons of whom, in general, the majority consists of males. "On these grounds therefore it was necessary to adopt some basis which should have reference to conditions that would sustain, in a certain measure, the partial and occasional admission of the exceptional classes; and which—as far as any set of facts supplied by the returns would permit—should also avoid any very violent discordance with other well-established observations known to represent correctly the mort. of persons engaged in those pursuits of life demanding, in a general sense, both energy and constant industry."

In viewing the very low percentage of deaths exhibited by the returns from the mass, it was impossible (says Mr. Finlaison) not to see that although the law which might be deduced therefrom would be more than safe as a basis for computing the values of allowances in sickness and life annu., yet, on the same grounds, *it became the reverse of secure in respect of the assu. of sums at death.* "Now the benefit of next importance to the allowance in sickness in the mind of an ordinary contributor to a Benefit So. is the assurance of a sum of money at the death of himself, his wife or child. There is perhaps scarcely a club which does not guarantee this benefit; and it is one therefore that could not possibly be left out of sight in dealing with the question of the law of mort."

Wherefore, after weighing these various considerations, a suitable basis was carefully sought for among the returns themselves: and choice was finally made of that class of facts which was obtained from the "Metropolitan Province"—the constitution of which was carefully explained in the preceding Rep.—and of which the numbers are given in detail in T. No. 12 of this Rep., to be mentioned hereafter.

In the Returns relating to this particular class the facts were sufficient in extent merely between the ages of 19 and 66. "But in failing at the last-mentioned age, the percentage of mort. in the 66th year of age tallied so closely with that yielded by the Returns for all E. and W. as to suggest a combination from this source as far as add. facts were available." These also failed at the age of 82, and the mort. here, as also at the age of 19, agreeing very nearly with that exhibited by the early pub. experience of the Gov. Male Life Annuitants [Finlaison, 1829], the latter was employed to complete the chain in each direction, and to show a law of mort. which should be perfect in point of extent. By the adoption of this course means were obtained to construct the T. of Mort. No. 12; and also the T. of pecuniary values for annuities, etc., which follow it.

A comparison is then made of the value of temporary and deferred annuities as deduced from the experience of the Tontine of 1789 [TONTINES], the Metropolitan Returns already here given, and the English Life T. No. 2; and the following conclusion is arrived at:

The more moderate value of the temporary life annu. deduced from the Metropolitan Returns, and the relation borne by this quantity to the deferred life annu. drawn from the same data, therefore, *are more calculated to inspire confidence in the security and fairness of the contributions computed for pensions in this law, than probably would be produced by the excessive values attaching to the life annu. computed on the facts given by the returns for all E. and W.* And the same characteristic of an unexaggerated vitality undoubtedly tends to the greater security of the contributions set forth for the assurance of sums payable on death. *It is, therefore, submitted that the T. applicable to the provision of allowances in old age and the payment of sums on death may be perfectly relied on for their safety and fairness to both sides of the question, or, in other words, the members and their club.*

3. *Interest.*—The remaining element involved in the construction of the T. of contributions is that of the *rate of int.* to be assumed as a constituent part of their composition. "The determination of this ingredient proceeds, however, upon far more simple grounds than the selection of a law of mort., which should be absolutely incapable of leading into injustice or insecurity." Mr. Finlaison offers the following general remarks hereon:

Under the existing law many channels of investment on substantial securities are left open to the managers of F. Sos., and in most of these channels money can command a more profitable return than is usually afforded by Gov. security. Nevertheless, few Benefit Sos. are quite in a position to avail themselves of such opportunities as those just mentioned. In the first place, the funds of the general order of Benefit Clubs are but small, and investments on real securities are rarely forthcoming for small sums. When they are to be had, and are in the shape of mortgages, as usually is the case, the transaction is expensive, and the security not very convertible when the investment is completed. A certain degree of mistrust often attaches to mortgages also, and they are therefore not generally popular. Under these circumstances the readiest and most obvious places of deposit which occur to the great bulk of F. Sos. are the savings banks, and these inst. in effect absorb most of the cap. of the smaller clubs, who on this point make up by their number what they lack in individual weight. It is true that many F. Sos. have the privilege of lodging their money at the National Debt Office for improvement at a far better rate than can be obtained from the savings banks. But this advantage is no longer open to every F. So. The general resort, therefore, of the lesser associations is of necessity the savings banks, and therefore the rate of interest allowed by the Gov. to these estab. must be taken into serious consideration when the probable average rate of improvement over the mass of investments falls to be estimated. Keeping in view all the difficulties which exist in the way of the smaller Benefit Clubs seeking for a place of deposit more eligible than the savings banks, and allowing somewhat, on the other hand, for the occasional better fortune and more profitable management of the capital of the larger Sos., it has been deemed judicious to adopt £3 5s. [34] p.c. p.a. as the probable rate of int. which on the average of cases and in the long run of time will be always realized by the F. Sos. of this kingdom.

We now reach the Tables, some of which we shall give *in extenso*, and some in abstract only.

T. No. 1.—SICKNESS.

Average Number of Days' Sickness p. a. undergone by each Person of the under-mentioned Classes in Friendly Sos. in Eng. and Wales.

N.B.—Mariners, Miners, and Colliers, are *not* included in the first three Classes.

Ages.	Males in General in E. and W.	Males engaged in Light Labour.	Males engaged in Heavy Labour.	Mariners.	Painters.	Railway Servants.	Miners and Colliers.
	Days.	Days.	Days.	Days.	Days.	Days.	Days.
12	5'1252	...	...	...	...	...	...
13	5'0379	4'3700	5'8113	...	...	...	11'8333
14	5'6935	4'7629	6'5654	...	...	...	10'8579
15	6'2075	5'1295	6'9923	...	...	...	10'9351
16	6'4005	5'3906	7'0015	...	...	...	10'0917
17	6'7481	5'0555	7'1013	4'8049	3'8571	...	9'8416
18	6'8296	6'3731	7'0417	5'4253	5'3188	...	9'6141
19	6'9055	6'4853	7'0950	4'0231	6'4490	...	9'4259
20	6'8835	6'4179	7'0959	5'2384	7'5815	...	9'2225
21	6'9058	6'3068	7'1890	4'0758	7'4873	8'0505	9'2667
22	6'8931	6'1660	7'2570	4'2421	7'2939	8'1867	9'0377
23	6'8619	6'0929	7'2699	4'5489	7'3131	8'8414	8'9033
24	6'8245	6'0194	7'2768	4'9836	7'0132	8'5219	9'0943
25	6'8298	5'9684	7'3387	5'2121	6'4845	8'6310	9'2176
26	6'8379	5'9411	7'3928	5'8932	5'5817	9'2375	9'2919
27	6'8973	6'0687	7'4290	6'4394	5'3730	10'2852	9'6581
28	6'9497	6'0970	7'5162	6'4762	6'1284	10'2730	9'9518
29	6'9441	6'0592	7'5491	6'4880	6'5893	10'0581	9'8965
30	6'9122	5'9796	7'5654	6'5896	7'1569	9'9252	9'9241
31	6'8626	5'9414	7'5206	7'1084	7'2032	9'5943	9'8156
32	6'8003	5'7748	7'5463	7'3932	7'1306	9'0221	9'6118
33	6'8364	5'7408	7'6457	7'9214	6'8194	8'2811	10'1595
34	6'9650	5'8917	7'7710	8'6018	6'6305	8'6431	10'5697
35	7'1424	6'1306	7'9193	9'0245	6'4225	8'8904	10'8896
36	7'4108	6'4702	8'1490	8'1920	9'5658	8'4455	11'4823
37	7'6396	6'7305	8'3684	7'7439	7'5124	7'5765	11'9169
38	7'8335	6'9240	8'5782	7'6993	7'9524	8'4556	11'5705
39	7'9846	7'0492	8'7625	8'1673	8'1461	9'5759	11'3850
40	8'2135	7'1559	9'1025	7'9932	8'4645	10'9102	11'7318
41	8'4035	7'1838	9'4391	9'0410	9'7181	11'9703	12'0890
42	8'5896	7'3225	9'6769	9'9265	10'5291	14'0439	12'6299
43	8'7587	7'5071	9'8413	10'3934	12'0700	14'9647	13'5185
44	9'0516	7'6372	10'2870	10'8052	13'7746	13'8339	15'1726
45	9'3392	7'9355	10'5762	11'4118	14'7811	12'1502	15'7955
46	9'5990	8'2288	10'8111	11'8992	14'5348	12'1192	16'7012
47	10'0575	8'7598	11'2118	12'7061	16'1581	10'1079	18'3110
48	10'5149	9'2018	11'6872	13'2957	15'7134	12'6243	19'3205
49	11'0123	9'8521	12'0573	12'9357	16'0025	13'6034	19'7939
50	11'4868	10'3974	12'4801	13'4054	16'8290	15'2348	20'8449
51	12'0145	11'0104	12'9477	13'9100	16'5912	15'8646	21'1117
52	12'4766	11'5923	13'3124	13'7959	17'4919	17'6667	20'5156
53	12'9882	12'2055	13'7391	14'9058	20'2453	13'8286	20'6263
54	13'4090	12'6253	14'1729	16'0812	21'6703	13'5070	21'5751
55	13'9455	13'1354	14'7445	18'0171	23'6108	14'7284	22'3229
56	14'6288	13'7014	15'5511	19'3482	25'6443	13'5747	24'7804
57	15'2382	13'8238	16'6521	20'5601	22'4643	14'1053	26'6140
58	16'2291	14'3069	18'1720	21'6719	18'1840	13'0377	27'8240
59	17'4330	15'1459	19'7776	23'5387	16'3056	15'3824	27'7840
60	18'7348	16'1511	21'4153	24'5500	18'3406	15'4505	28'2868

Ages.	Males in General in E. and W.	Males engaged in Light Labour.	Males engaged in Heavy Labour.	Mariners.	Painters.	Railway Servants.	Miners and Colliers.
	Days.	Days.	Days.	Days.	Days.	Days.	Days.
61	20'1717	17'2527	23'2393	26'9249	24'0111	16'0366	27'6928
62	21'8270	18'8700	24'9854	31'8352	31'8750	14'3030	28'0685
63	23'4850	20'5259	26'6735	36'6970	42'4789	14'0962	27'7233
64	25'4208	22'5669	28'4801	40'1793	44'0154	17'0938	28'6183
65	27'3564	24'6425	30'2534	48'4668	46'6226	17'7500	31'5345
66	29'7893	27'2100	32'5361	50'4180	44'6591	26'7619	36'1800
67	32'3540	29'7086	35'1748	53'8140	41'6167	26'7750	39'4534
68	35'4239	32'9776	38'0270	57'2226	33'5161	33'1714	45'3136
69	39'0656	36'6137	41'7366	62'8308	41'4707	...	51'0733
70	43'6513	40'8611	46'6527	61'4123	40'2500	...	54'3665
71	48'1807	44'6033	52'2168	75'4782	44'8000	...	52'0896
72	53'6783	48'9103	59'1383	81'5000	41'0000	...	58'5790
73	59'3229	52'7322	66'9898	83'5000	30'5000	...	62'6993
74	63'2823	54'9456	72'8668	74'2647	...	...	62'6635
75	66'8123	56'8370	78'1977	75'0652	...	...	70'5195
76	71'4833	60'3582	84'1791	...	...	...	74'0000
77	77'3931	66'1217	89'8373	...	...	...	73'9556
78	82'9178	72'8949	93'6064	...	...	...	75'9460
79	90'9886	82'4648	99'6599	...	...	...	83'3929
80	97'6832	90'9692	104'2469	...	...	...	80'9565
81	102'8451	100'3470	105'1627	...	...	...	106'3750
82	106'0442	105'9758	106'1074	...	...	...	104'8000
83	106'3780	104'3604	108'2783	...	...	...	159'4286
84	99'4289	93'2342	105'2808	...	...	...	207'8333

T. No. 2.—MORTALITY.

Law of Mortality prevailing among the Male Members of F. Sos. throughout England and Wales, as deduced from the Facts shown in the Quinquennial Returns to the 31st December, 1850.

Age.	No. of Persons subject to Mort. at each Age.	No. of Deaths.	No. out of which One will die in the Year.	The Nos. in the previous Col. adjusted.	Prob. that the Life will fail in the Year.	Number Living.
12	1,766	7	252'28	252'280	'0039638	...
13	2,940	16	183'75	210'890	'0047418	...
14	4,610	24	192'08	196'638	'0050854	...
15	7,322	39	187'74	183'392	'0054529	871'918
16	11,212	67	167'34	172'857	'0057850	867'164
17	16,838	100	168'38	162'652	'0061482	862'147
18	25,098	169	148'51	154'418	'0064758	856'846
19	35,586	251	141'78	147'145	'0067958	851'298
20	48,113	356	135'15	141'817	'0070512	845'512
21	61,880	461	134'23	138'810	'0072041	839'550
22	75,849	567	133'77	137'336	'0072812	833'502
23	88,556	645	137'29	137'419	'0072770	827'433
24	99,764	712	140'12	137'708	'0072616	821'412
25	103,379	771	140'57	137'590	'0072678	815'447
26	115,039	822	139'95	136'835	'0073086	809'521
27	119,947	875	137'08	135'340	'0073888	803'604
28	123,684	939	131'72	133'253	'0075047	797'667
29	126,002	982	128'31	131'152	'0076249	791'680
30	127,827	983	130'04	129'419	'0077268	785'644
31	128,179	1008	127'16	127'702	'0078308	779'573
32	127,762	1017	125'63	126'064	'0079327	773'468

Age.	No. of Persons subject to Mort. at each Age.	No. of Deaths.	No. out of which One will die in the Year.	The Nos. in the previous Col. adjusted.	Prob. that the Life will fail in the Year.	Number Living.
33	126,402	1005	125'77	124'337	'0080425	767'333
34	124,936	994	125'69	122'030	'0081947	761'162
35	122,555	1022	119'92	119'940	'0083375	754'924
36	120,428	1035	116'36	115'846	'0086321	748'630
37	117,676	1051	111'96	110'742	'0090301	742'185
38	114,458	1087	105'30	106'144	'0094212	735'483
39	110,296	1101	100'167	101'671	'0098357	728'554
40	106,481	1099	96'889	97'465	'0102601	721'388
41	102,408	1089	94'038	94'441	'0105886	713'987
42	98,480	1083	90'933	91'776	'0108961	706'426
43	94,692	1050	90'183	88'922	'0112458	698'729
44	91,959	1059	86'836	86'095	'0116150	690'872
45	88,568	1072	82'619	83'220	'0120164	682'847
46	85,019	1064	79'905	79'876	'0125194	674'641
47	81,379	1063	76'556	76'584	'0130576	666'195
48	77,049	1057	73'462	73'416	'0136210	657'496
49	72,421	1029	70'380	70'235	'0142379	648'541
50	67,644	1013	66'776	67'146	'0148929	639'307
51	63,168	987	64'000	63'985	'0156286	629'786
52	58,910	964	61'110	60'418	'0165514	619'943
53	54,778	950	57'661	56'922	'0175679	609'682
54	51,913	988	52'543	53'044	'0188523	598'971
55	49,051	995	49'297	49'297	'0202852	587'680
56	46,080	1033	44'608	45'705	'0218794	575'758
57	43,096	1017	42'375	43'107	'0231981	563'161
58	40,061	1009	39'703	40'912	'0244427	550'097
59	36,388	920	39'552	39'451	'0253480	536'651
60	32,840	857	38'320	37'982	'0263282	523'048
61	29,547	792	37'306	36'764	'0272005	509'277
62	26,412	754	35'029	34'764	'0287654	495'424
63	23,496	699	33'613	32'523	'0307475	481'173
64	21,218	718	29'551	30'134	'0331851	466'378
65	19,118	705	27'118	27'683	'0361232	450'902
66	17,118	675	25'360	25'115	'0398168	434'614
67	15,235	669	22'773	23'118	'0432563	417'309
68	13,462	648	20'774	21'319	'0469065	399'258
69	11,562	591	19'563	19'624	'0509580	380'530
70	9,752	538	18'126	18'293	'0546657	361'139
71	8,172	484	16'884	17'143	'0583328	...
72	6,819	423	16'120	16'031	'0623791	...
73	5,619	374	15'024	15'051	'0664408	...
74	4,705	336	14'003	14'008	'0713878	...
75	3,927	297	13'222	12'956	'0771843	...
76	3,233	277	11'671	11'900	'0840364	...
77	2,617	241	10'859	10'951	'0913159	...
78	2,163	222	9'743	9'872	'1012945	...
79	1,759	190	9'258	9'031	'1107334	...
80	1,425	182	7'830	8'215	'1217271	...
81	1,127	151	7'464	7'542	'1325961	...
82	868	128	6'781	6'838	'1462352	...
83	644	101	6'376	6'376	'1568332	...
84	465	81	5'741	5'741	'1741948	...

The following T. (Nos. 3—7) furnish the means of preparing contribution rates for any variation in the scale of benefits desired. *They are all based exclusively upon the results of the Returns of F. Sos., as investigated by Mr. Finlaison, and presented in his Rep. of 1853, and this present Rep.; as are the succeeding 4 T. (Nos. 8—11), wherein the decimal values are converted into £ s. d. values.*

T. No. 3.—MONEY VALUES.

Present Values of a Temporary Annuity of £1, on a Male Life, ceasing at the Age of 70, 65, and 60 Years respectively; the Interest of Money being taken after the Rate of 3½ p.c. p.a.—Abstract only.

Age.	Present Value of the Annuity, ceasing at the Age of 70.	Present Value of the Annuity, ceasing at the Age of 65.	Present Value of the Annuity, ceasing at the Age of 60.
15	21'47979	21'05857	20'46307
20	20'58395	20'07423	19'35365
25	19'62704	19'00686	18'13016
30	18'48459	17'72926	16'66150
35	17'14673	16'22433	14'92043
40	15'61404	14'48138	12'88023
45	13'89331	12'48922	10'50437
50	11'92277	10'16297	7'67533
55	9'68203	7'43564	4'26019
60	7'14819	4'18654	
65	4'03129		

T. No. 4.—SICKNESS CONTRIBUTIONS.

Table of Single and Monthly Contributions for a Weekly Allowance of £1 in Sickness; the Monthly Contribution and Benefit ceasing at the Ages undermentioned.—In abstract.

Age.	CONTRIBUTION AND BENEFIT TO CEASE AT THE AGE OF					
	70 Years.		65 Years.		60 Years.	
	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.
15	27'358	'10372	25'323	'09788	23'418	'09309
20	27'905	'11029	25'443	'10306	23'137	'09712
25	28'526	'11811	25'531	'10907	22'726	'10165
30	29'303	'12862	25'656	'11729	22'238	'10798
35	30'347	'14331	25'894	'12903	21'720	'11738
40	31'248	'16160	25'779	'14340	20'654	'12864
45	31'892	'18465	25'112	'16111	18'759	'14206
50	31'886	'21389	23'400	'18287	15'438	'15736
55	30'582	'25029	19'797	'20790	9'634	'16866
60	27'618	'30092	13'399			
65	19'357					

T. No. 5.—SICKNESS CONTRIBUTIONS (*Light Labour*).

Table of Single and Monthly Contributions for a Weekly Allowance of £1 in Sickness to Males engaged in Light Labour; the Monthly Contribution and Benefit ceasing at the Ages undermentioned.—In abstract.

Ages.	CONTRIBUTION AND BENEFIT TO CEASE AT THE AGE OF					
	70 Years.		65 Years.		60 Years.	
	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.
15	24'2146	'09181	22'3552	'08641	20'6986	'08228
20	24'6886	'09758	22'4386	'09089	20'4342	'08577
25	25'1386	'10408	22'4008	'09570	19'9626	'08929
30	25'8600	'11351	22'5258	'10298	19'5562	'09496
35	26'9386	'12721	22'8666	'11394	19'2406	'10398
40	27'8094	'14382	22'8088	'12688	18'3562	'11433
45	28'6138	'16567	22'4152	'14381	16'8954	'12795
50	28'8500	'19353	21'0732	'16469	14'1554	'14429
55	27'4978	'22505	17'5708	'18451	8'7400	'15300
60	24'7306	'26946	11'6428			
65	17'8146					

T. No. 6.—SICKNESS CONTRIBUTIONS (*Heavy Labour*).

Table of Single and Monthly Contributions for a Weekly Allowance of £1 in Sickness to Males engaged in Heavy Labour; the Monthly Contribution and Benefit ceasing at the Ages undermentioned.—In abstract.

Age.	CONTRIBUTIONS AND BENEFIT TO CEASE AT THE AGE OF					
	70 Years.		65 Years.		60 Years.	
	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.
15	29'7552	'11281	27'5634	'10654	25'3934	'10094
20	30'4588	'12039	27'8072	'11263	25'1814	'10569
25	31'3666	'12987	28'1400	'12021	24'9448	'11158
30	32'3268	'14190	28'3968	'12982	24'5054	'11899
35	33'4626	'15802	28'6634	'14282	23'9108	'12922
40	34'4748	'17829	28'5822	'15899	22'7462	'14167
45	35'0462	'20291	27'7418	'17798	20'5072	'15530
50	34'9134	'23420	25'7586	'20131	16'6912	'17014
55	33'7960	'27660	22'1098	'23218	10'5346	'18442
60	30'6680	'33415	15'2614			
65	21'0052					

T. No. 7.—SICKNESS CONTRIBUTIONS (*Special Occupations*).

Table of Single and Monthly Contributions for a Weekly Allowance of £1 in Sickness to Persons of the Occupations undermentioned; the Monthly Contribution and Benefit ceasing in each case at the Age of 65 Years.—In abstract.

Age.	Mariners.		Painters.		Railway Servants.		Miners and Colliers.	
	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.
15	...	...	...	...	...	...	37'7968	'14610
20	26'9752	'10926	30'1302	'12204	...	...	37'8566	'15334
25	29'1754	'12464	30'8600	'13183	30'7118	'13120	38'8706	'16605
30	30'7352	'14050	32'8272	'15007	29'7728	'13611	39'7714	'18182
35	31'6142	'15753	34'5532	'17217	29'1432	'14522	40'6580	'20259
40	32'3280	'17983	36'5898	'20353	28'9808	'16121	40'8500	'22723
45	32'4446	'20815	36'7482	'23576	25'5088	'16366	40'3102	'25862
50	30'7098	'24000	33'7012	'26338	22'2726	'17406	36'1734	'28270
55	27'5642	'28946	28'0768	'29484	16'0522	'16857	29'2152	'30679
60	19'4502	...	19'2978	...	9'4866	...	17'3132	...
64	5'5546	...	6'0848	...	2'3632	...	3'9562	...

T. No. 8.—MONEY VALUES.

T. of Contributions, shown in Stg. Money, for a Weekly Allowance of 10s. in Sickness; the Monthly Contribution and Benefit ceasing at the Ages undermentioned.—In abstract.

Age.	CONTRIBUTIONS AND BENEFIT TO CEASE AT THE AGE OF							
	70 Years.		65 Years.		60 Years.			
	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.
15	£ s. d. 13 13 7	s. d. 1 0½	£ s. d. 12 13 3	s. d. 0 11½	£ s. d. 11 14 2	s. d. 0 11½	£ s. d. 11 14 2	s. d. 0 11½
20	13 19 1	1 1¼	12 14 5	1 0½	11 11 4	0 11½	11 11 4	0 11½
25	14 5 3	1 2¼	12 15 4	1 1¼	11 7 3	1 0½	11 7 3	1 0½
30	14 13 0	1 3½	12 16 7	1 2¼	11 2 5	1 1	11 2 5	1 1
35	15 3 6	1 5¼	12 18 11	1 3½	10 17 3	1 2¼	10 17 3	1 2¼
40	15 12 6	1 7¼	12 17 9	1 5¼	10 6 6	1 3½	10 6 6	1 3½
45	15 18 11	1 10¼	12 11 1	1 7½	9 7 7	1 5¼	9 7 7	1 5¼
50	15 18 10	2 1½	11 14 0	1 10	7 14 4	1 7	7 14 4	1 7
55	15 5 10	2 6	9 18 0	2 1	4 16 4	1 8½	4 16 4	1 8½
60	13 16 2	3 0	6 14 0					
65	9 13 7							

T. No. 9.—MONEY VALUES (*Light Labour*).

Table of Contributions, shown in Sterling Money, for a Weekly Allowance of 10s. in Sickness to Males engaged in Light Labour; the Monthly Contribution and Benefit ceasing at the Ages undermentioned.—In abstract.

Age.	CONTRIBUTION AND BENEFIT TO CEASE AT THE AGE OF					
	70 Years.		65 Years.		60 Years.	
	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.
15	£ s. d.	s. d.	£ s. d.	s. d.	£ s. d.	s. d.
20	12 2 2	0 11	11 3 7	0 10½	10 7 0	0 10
25	12 6 11	0 11½	11 4 5	0 11	10 4 4	0 10½
30	12 11 5	1 0½	11 4 0	0 11½	9 19 8	0 10¾
35	12 18 7	1 1½	11 5 3	1 0½	9 15 7	0 11½
40	13 9 5	1 3¼	11 8 8	1 1¼	9 12 5	1 0½
45	13 18 1	1 5¼	11 8 1	1 3¼	9 3 7	1 1¼
50	14 6 2	1 7¾	11 4 2	1 5¼	8 8 11	1 3½
55	14 8 6	1 11¼	10 10 9	1 8	7 1 7	1 5½
60	13 15 0	2 3	8 15 8	1 10¼	4 7 5	1 6½
65	12 7 4	2 8¼	5 16 5			
69	8 18 2					
	2 10 2					

T. No. 10.—MONEY VALUES (*Heavy Labour*).

Table of Contributions, shown in Sterling Money, for a Weekly Allowance of 10s. in Sickness to Males engaged in Heavy Labour; the Monthly Contribution and Benefit ceasing at the Ages undermentioned.—In Abstract.

Age.	CONTRIBUTION AND BENEFIT TO CEASE AT THE AGE OF					
	70 Years.		65 Years.		60 Years.	
	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.
15	£ s. d.	s. d.	£ s. d.	s. d.	£ s. d.	s. d.
20	14 17 7	1 1½	13 15 8	1 1	12 13 11	1 0¼
25	15 4 7	1 2½	13 18 1	1 1¾	12 11 10	1 0¾
30	15 13 8	1 3¾	14 1 5	1 2½	12 9 5	1 1½
35	16 3 3	1 5	14 4 0	1 3¾	12 5 1	1 2½
40	16 14 8	1 7	14 6 8	1 5¼	11 19 1	1 3¾
45	17 4 9	1 9½	14 5 10	1 7¼	11 7 6	1 5
50	17 10 6	2 0½	13 17 5	1 9½	10 5 1	1 6¾
55	17 9 2	2 4¼	12 17 7	2 0¼	8 6 11	1 8½
60	16 18 0	2 9¼	11 1 1	2 4	5 5 4	1 10¼
65	15 6 8	3 4¼	7 12 7			
69	10 10 1					
	2 17 2					

T. No. 11.—MONEY VALUES (*Special Occupations*).

Table of Contributions, shown in Sterling Money, for a Weekly Allowance of 10s. in Sickness to Persons of the Occupations undermentioned; the Monthly Contribution and Benefit ceasing in each Case at the Age of 65 Years.—In Abstract.

Age.	Mariners.		Painters.		Railway Servants.		Miners and Colliers.	
	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.	Single Payment.	Monthly Contribution.
	£ s. d.	s. d.	£ s. d.	s. d.	£ s. d.	s. d.	£ s. d.	s. d.
15	...	...	...	...	...	...	18 18 0	1 5½
20	13 9 9	1 1¼	15 1 4	1 2¾	...	...	18 18 7	1 6½
25	14 11 9	1 3	15 8 7	1 4	15 7 1	1 3¾	19 8 8	1 8
30	15 7 4	1 5	16 8 3	1 6	14 17 9	1 4½	19 17 9	1 10
35	15 16 2	1 7	17 5 6	1 8¾	14 11 5	1 5½	20 6 7	2 0½
40	16 3 3	1 9¾	18 5 11	2 0½	14 9 10	1 7¾	20 8 6	2 3½
45	16 4 5	2 1	18 7 6	2 4½	12 15 1	1 7¼	20 3 1	2 7¼
50	15 7 1	2 5	16 17 0	2 7¾	11 2 9	1 9	18 1 9	2 10
55	13 15 8	2 10¾	14 0 9	2 11½	8 0 6	1 8¼	14 12 2	3 1
60	9 14 6	...	9 13 0	...	4 14 10	...	8 13 2	...
64	2 15 7	...	3 0 10	...	1 3 8	...	1 19 7	...

T. No. 12.—(SPECIAL.)

Law of Mortality deduced, between the Ages of 19 and 66, from the Facts contained in the Returns from the F. Sos. of the Metropolitan Province; continued between the Ages of 66 and 82 from the Returns for all E. and W. [Farr's English T. No. 2], and completed below the Ages of 19 and 82, from the Experience of the Gov. Male Life Annuityants [Finlaison's T.].

Age.	No. of Persons subject to Mort. at each Age.	No. of Deaths.	Prob. that the Life will Fail in the Year.	Adjusted Probability.	No. Living.
Birth.	...	...	...	·01919	1,000,000
1	...	...	...	·01792	980,800
2	...	...	...	·01506	963,220
3	...	...	...	·01248	948,707
4	...	...	...	·01038	936,861
5	...	...	...	·00867	927,136
6	...	...	...	·00732	919,090
7	...	...	...	·00652	912,356
8	...	...	...	·00604	906,400
9	...	...	...	·00583	900,925
10	...	...	...	·00562	895,668
11	...	...	...	·00548	890,625
12	...	...	...	·00534	885,740
13	...	...	...	·00525	881,008
14	...	...	...	·00545	876,375
15	...	...	...	·00594	871,594
16	...	...	...	·00686	866,408
17	...	...	...	·00796	860,464
18	...	...	...	·00931	853,611
19	714	7	·00980	·01008	845,661
20	1321	14	·01059	·00945	837,130
21	2325	18	·00774	·00878	829,216
22	3677	30	·00815	·00839	821,929
23	5224	39	·00746	·00811	815,031
24	6876	47	·00683	·00807	808,419
25	8466	68	·00803	·00830	801,888
26	9831	91	·00925	·00871	795,232
27	11045	96	·00869	·00911	788,303
28	12213	123	·01007	·00960	781,115
29	13168	136	·01032	·01001	773,615
30	14020	143	·01019	·01030	765,870
31	14602	154	·01054	·01059	757,982
32	14935	168	·01124	·01090	749,951
33	15013	162	·01079	·01121	741,771
34	15047	167	·01109	·01165	733,451
35	14870	178	·01197	·01227	724,900
36	14704	184	·01251	·01295	716,005
37	14439	199	·01378	·01369	706,729
38	14085	208	·01476	·01440	697,050
39	13546	219	·01616	·01497	687,008
40	13044	203	·01556	·01529	676,718
41	12503	198	·01583	·01547	666,368
42	11955	186	·01555	·01550	656,056
43	11426	175	·01531	·01546	645,885
44	11043	164	·01485	·01541	635,898
45	10550	166	·01573	·01551	626,095
46	9964	153	·01535	·01568	616,378
47	9400	147	·01563	·01605	606,709
48	8848	139	·01570	·01660	596,971
49	8170	141	·01725	·01744	587,059
50	7602	133	·01749	·01840	576,819
51	7204	143	·01985	·01965	566,201
52	6821	139	·02037	·02096	555,071
53	6435	150	·02331	·02244	543,436
54	6151	140	·02276	·02391	531,240
55	5853	154	·02631	·02563	518,535
56	5452	141	·02586	·02724	505,244
57	5061	149	·02944	·02895	491,477
58	4629	143	·03089	·03045	477,247

Age.	No. of Persons subject to Mort. at each Age.	No. of Deaths.	Prob. that the Life will Fail in the Year.	Adjusted Probability.	No. Living.
59	4104	140	'03411	'03167	462,711
60	3610	118	'03268	'03240	448,055
61	3193	109	'03413	'03305	433,535
62	2809	94	'03346	'03357	419,206
63	2495	78	'03126	'03435	405,131
64	2276	76	'03339	'03580	391,211
65	2062	76	'03685	'03798	377,205
66	1711·8	67·5	'03943	'04072	362,877
67	1523·5	66·9	'04391	'04405	348,098
68	1346·2	64·8	'04813	'04768	332,763
69	1156·2	59·1	'05111	'05138	316,894
70	975·2	53·8	'05516	'05518	300,612
71	817·2	48·4	'05922	'05906	284,024
72	681·9	42·3	'06203	'06321	267,248
73	561·9	37·4	'06655	'06784	250,354
74	470·5	33·6	'07141	'07317	233,370
75	392·7	29·7	'07563	'07916	216,292
76	323·3	27·7	'08507	'08641	199,170
77	261·7	24·1	'09209	'09453	181,959
78	216·3	22·2	'10263	'10367	164,757
79	175·9	19·0	'10801	'11353	147,676
80	142·5	18·2	'12771	'12458	130,909
81	112·7	15·1	'13398	'13550	114,599
82	86·8	12·8	'14746	'14732	99,070
83	64·4	10·1	'15683	'16225	84,475
84	46·5	8·1	'17419	'18300	70,768
85	...	...	...	'20620	57,817
86	...	...	...	'24053	45,895
87	...	...	...	'27530	34,856
88	...	...	...	'30953	25,259
89	...	...	...	'33905	17,441
90	...	...	...	'37707	11,527
91	...	...	...	'38400	7,181
92	...	...	...	'42200	4,423
93	...	...	...	'46000	2,557
94	...	...	...	'49800	1,381
95	...	...	...	'53600	693
96	...	...	...	'62500	322
97	...	...	...	'75000	121
98	...	...	...	'1'00000	30

T. No. 13.—ANNUITY VALUES (*Males*).*Present Value of an Annuity of £1 on a Male Life. Interest 3½ p.c.—based on T. No. 12.*

Age.	Immediate: For the Whole of Life.	Temporary: To continue to the Age of			Deferred: To commence at the Age of		
		70 Years.	65 Years.	60 Years.	70 Years.	65 Years.	60 Years.
10	21'859908						
15	20'963541	20'5374	20'1861	19'6837	'4261	'7774	1'2798
20	20'173906	19'6533	19'2241	18'6103	'5206	'9498	1'5636
25	19'284795	18'6471	18'1213	17'3694	'6377	1'1635	1'9154
30	18'249988	17'4665	16'8206	15'8967	'7835	1'4294	2'3533
35	17'162459	16'1912	15'3904	14'2451	'9713	1'7721	2'9174
40	16'074228	14'8533	13'8467	12'4072	1'2209	2'2275	3'6670
45	14'875385	13'3269	12'0503	10'2245	1'5485	2'8251	4'6504
50	13'419789	11'4476	9'8216	7'4962	1'9722	3'5982	5'9236
55	11'922656	9'3483	7'2259	4'1906	2'5744	4'6968	7'7321
60	10'500154						
65	8'8899833						
70	7'1745369						
75	5'5002700						
80	3'8981905						
85	2'3967771						
90	1'3548038						
95	'6521332						

T. No. 14.—MONEY VALUES.

Calendar Monthly Contributions at each Age (ceasing when the Benefit commences), to provide an Annuity of £1 for Life from and after the Ages of 70, 65, and 60 Years respectively.—Based on T. No. 12.

Age.	ANNUITY COMMENCING AT THE AGE OF			Age.	ANNUITY COMMENCING AT THE AGE OF		
	70 Years.	65 Years.	60 Years.		70 Years.	65 Years.	60 Years.
15	·001688	·003132	·005284	40	·006627	·012939	·023676
20	·002153	·004013	·006818	45	·009333	·018759	·036139
25	·002776	·005207	·008932	50	·013756	·029051	·061734
30	·003634	·006877	·011960	55	·021783	·050660	·137369
35	·004850	·009294	·016488				

T. No. 15.—MONEY VALUES.

Single and Monthly Contributions for the Assurance of £10 at Death.

Based on T. No. 12.

Age.	Single Payment to Assure £10 at Death.	Monthly Contribution Payable.			
		For Life.	Until 70 Years of Age.	Until 65 Years of Age.	Until 60 Years of Age.
15	3·086537	·011984	·012226	·012434	·012743
20	3·335091	·013443	·013791	·014090	·014543
25	3·614957	·015226	·015733	·016178	·016858
30	3·940681	·017514	·018278	·018960	·020028
35	4·283004	·020208	·021384	·022461	·024206
40	4·625546	·023257	·025106	·026867	·029864
45	5·002905	·027115	·030152	·033219	·038874
50	5·461083	·032694	·038090	·044091	·056913
55	5·932337	·039795	·050197	·063987	·105393
60	6·380097				
65	6·886930				
70	7·426901				
75	7·953910				

T. No. 16.—MONEY VALUES.

Present Value in Sterling Money of an Annuity of £10 on a Male Life. Interest, 3½ p.c.

Based on T. No. 12.

Age.	Immediate : For the Whole of Life.	TEMPORARY : To continue to the Age of			DEFERRED : To commence at the Age of		
		70 Years.	65 Years.	60 Years.	70 Years.	65 Years.	60 Years.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
10	218 12 0						
15	209 12 9	205 7 6	201 17 2	196 16 9	4 5 2	7 15 6	12 15 11
20	201 14 9	196 10 8	192 4 10	186 2 1	5 4 1	9 10 0	15 12 9
25	192 17 0	186 9 5	181 4 3	173 13 11	6 7 6	11 12 8	19 3 1
30	182 10 0	174 13 4	168 4 1	158 19 4	7 16 8	14 5 11	23 10 8
35	171 12 6	161 18 3	153 18 1	142 9 0	9 14 3	17 14 5	29 3 6
40	160 14 10	148 10 8	138 9 4	124 1 6	12 4 2	22 5 6	36 13 5
45	148 15 1	133 5 5	120 10 1	102 4 11	15 9 8	28 5 0	46 10 1
50	134 3 11	114 9 6	98 4 4	74 19 3	19 14 5	35 19 8	59 4 7
55	119 4 6	93 9 8	72 5 2	41 18 1	25 14 11	46 19 4	77 6 5
60	105 0 0						
65	88 18 0						
70	71 14 11						
75	55 0 1						
80	38 19 8						
85	23 19 4						
90	13 11 0						
95	6 10 5						

T. No. 17.—MONEY VALUES (*Superannuation*).

Calendar Monthly Contributions (ceasing when the Benefit commences) to provide a Pension for Life of 5s. per Week, from and after the Ages respectively undermentioned.
—Based on T. No. 12.

Age.	PENSION commencing at the Age of			Age.	PENSION commencing at the Age of		
	70 Years.	65 Years.	60 Years.		70 Years.	65 Years.	60 Years.
	s. d.	s. d.	£ s. d.		s. d.	s. d.	s. d.
15	0 5½	0 10	£ 1 4½	40	1 8½	3 4½	6 1¾
20	0 6¾	1 0¾	1 9¾	45	2 5½	4 10¾	9 4¾
25	0 8¾	1 4¾	2 3¾	50	3 7	7 6¾	16 0½
30	0 11¾	1 9½	3 1¼	55	5 8	13 2¼	1 15 8½
35	1 3¼	2 5	4 3½				

T. No. 18.—MONEY VALUES.

Single and Monthly Contributions (in Sterling Money) for the Assurance of £10 at Death.—Based on T. No. 12.

Age.	Single Payment to Assure £10 at Death.			Monthly Contribution Payable			
				For Life.	Until 70 Years of Age.	Until 65 Years of Age.	Until 60 Years of Age.
	£ s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
15	3 1 9	0 3	0 3	0 3	0 3	0 3	0 3¼
20	3 6 8	0 3½	0 3½	0 3½	0 3½	0 3½	0 3½
25	3 12 4	0 3¾	0 4	0 4	0 4	0 4	0 4¼
30	3 18 10	0 4¼	0 4½	0 4½	0 4½	0 4¾	0 4¾
35	4 5 8	0 5	0 5½	0 5½	0 5½	0 5¾	0 5¾
40	4 12 6	0 5¾	0 6½	0 6½	0 6½	0 6½	0 7
45	5 0 1	0 6¾	0 7¼	0 7¼	0 8	0 8	0 9¼
50	5 9 3	0 8	0 9¼	0 9¼	0 10¾	1 1	1 1¼
55	5 18 8	0 9¾	1 0¼	1 0¼	1 3½	2 1	2 1¼
60	6 7 7						
65	6 17 9						
70	7 8 6						
75	7 19 1						

We now approach the close of the inquiry, which Mr. Finlaison hoped was closed "for the present only." He had seen in his progress through it how much more yet remained to be learned. We shall quote his concluding passages in order that no part of his labours may be lost :

It is unnecessary, perhaps, to recall to recollection that for the purpose of obtaining the herewith adduced arithmetical results, data collected on the very greatest scale have been put into requisition. Cases, comprising upwards of *three million of facts*, recorded with considerable pains, and relating to the circumstances of *several hundred thousand* individuals of the operative classes, residing in all parts of E. and W., have been carefully transcribed, digested, and finally expressed in a shape capable of being made useful to the interests of the order of persons from which this valuable body of statistical knowledge was derived. *During this process, various curious results were elicited, illustrative of the relative sanitary condition of the members of F. Sos. in the 8 provinces, into which, for the purposes of this inquiry, the whole surface of the kingdom was apportioned.* In so far as concerns the same order of persons also, the relative amount of sickness prevailing in the City, Town, and Rural Districts of E. and W. was likewise investigated and determined. The question of the effect produced on the health of the individual by exposure to the elements has also received considerable elucidation. And, finally, the influence produced on the sickness of the workman by the nature of his employment has been brought within the compass of observation, and, under attentive analysis, has resulted in the practical discovery, that the greater or lesser number of days' sickness *p.a.* to be provided against by the working man will be mainly governed by the greater or smaller amount of physical exertion permanently demanded by his occupation. Certain cases, exceptional to all rule, have also been separately observed and practically dealt with.

In the progress of the observation over an amount of information, that was almost embarrassing from its very extent, the processes adopted served to discard much matter that was not of positive service.

From time to time, also, in the general treatment of the subject, *insight was obtained which showed the absence of any necessity for multifarious computations, as far as the interests of the contributors to F. Sos. were concerned, and which demonstrated the importance of such T. only as should be applicable on the great scale to the general mass of members of Benefit Sos., and to each of the two sections employed in light and heavy labour into which it was found that mass could be effectively divided.* In the advancement of the general plan, accordingly, the facts have converged into the few channels in which their treatment could be practically and essentially serviceable; and moulded and compressed through the innumerable arithmetical processes to which, of necessity, they have been subjected, the experience returned from the F. Sos. of the kingdom has finally taken the shape exhibited in the pecuniary scales of contribution now submitted for your approval.

Further :

It is indispensable to observe, that in so far as the allowances in sickness are concerned, these rates of contribution are applicable only to the use of Sos. shutting out candidates employed in the occupa-

tions indicated throughout as exceptional. Persons in these categories, if admitted as members, would bring a charge on the funds of the So. disproportionate to the rates of contribution demanded from the ordinary subscribers. Scales of contribution adapted to the particular circumstances of these exceptional employments are, however, laid down in the T. herewith supplied. In general also it must be distinctly understood that while the greater risks will always comprehend the less, the safety of the So. making use of the average T. constructed for the general mass of members will mainly depend on the proportions in which the contributors engaged in the respective descriptions of labour are present. Under any circumstances, therefore, use of the T. applicable to the case of contributors employed in heavy labour will always be the course most conducive to security.

But there still remained a yet more important avowal :

Attention, likewise, must once more be drawn to the circumstance that the T. now supplied for allowances in sickness are applicable to nothing but sickness in the strictest sense of the term. They are not intended to meet the case of chronic infirmity demanding little or no medical attention. It is, in fact, the weight of this exceptional description of claim that generally breaks the back of a F. So.; for too little discrimination by far is often used in distinguishing real sickness from the so-called claim that is often merely an incapacity to labour. In reference to this point, therefore, the T. now given are to be used with due circumspection. For it must be borne in mind that the rates herewith submitted, when put into comparison, perhaps, with other scales of payment already in use, are merely arithmetical results obtained through certain well-known formulæ, from data in which the questionable claims made under the head of mere superannuation for allowances in sickness found no place. For the provision of allowances in superannuation, meaning thereby only pensions in old age, the proper cost is shown in another portion of the T. And this useful knowledge is followed by equally material information showing the contributions which will secure the payment of sums on death.

There is one more point to be adverted to in respect of the use to be made of the T. now under consideration, as it involves an important caution. It must be fully understood that these scales of contribution contain no margin of surplus whatever applicable to expenses of man., or the remuneration of medical advice. These items of expenditure should indeed always be met by extra contributions levied or obtained for the purpose. There are two recommendations for this course. In the first place a wholesome control is exercised over any tendency to profusion, where there is a specific levy for this particular purpose. In the second place confusion is avoided, and therefore any inadvertent inroad prevented on the funds, which are a trust that should be sacred to the provision of the benefits.

And so closes (except in one particular to be next mentioned) one of the most exhaustively able Reports ever produced in any time or in any country. One of its most conspicuous features is its frankness. A line of inquiry is pursued, even to its remotest sinuosities. It presents features of interest, perhaps of novelty, as it advances; but when submitted to practical scrutiny they are seen to be so exceptional that they may be safely allowed to merge into the general results. In this manner the final issues are reduced into very practicable limits.

But there is something more. Mr. Finlaison, in the progress of his inquiry, learned, what all who are practically brought into contact with the dealings of F. Sos. learn, viz. that they are open to great abuses arising from simulation of sickness, or what is more general sponging upon the funds. In deducing his measure of sickness from the Returns before him, he endeavoured to eliminate all such impositions. Here is his own declaration upon the subject, in the shape of a passage from his present Rep., followed by another passage pointing out the necessary consequences of this course in respect to the use to be made of his T. :

It is clearly to be understood that although separate cases of sickness occurring to the same individual during each year were added together so as to make the return perfectly accurate, yet that nothing but sickness in the true sense of the word, that is, sickness incapacitating from labour, and requiring constant medical treatment, and of limited duration, as contradistinguished from chronic ailment and mere decrepitude, was considered to be sickness. For instance, slight paralysis, blindness, mental disorder, or senile infirmity, cannot, it was thought, fairly be classed with the sickness commonly prostrating the workman, and for relief under the visitation of which he seeks the aid of a benefit club. In the abstraction of the data on which the T. now submitted are founded, all cases of the above, or any other description of chronic malady which were returned under the head or term of superannuation, were carefully eliminated, where no cessation of this title to relief, and where no return to the ordinary conditions under which allowances are drawn in sickness, could be perceived.

For the above reason, and also because of the omission of certain occupations of greater hazard already enumerated, it is to be remarked that the T. now submitted must be expected to display rates of contribution rather lower than those which have heretofore been promulgated as necessary to secure the benefits of a pecuniary allowance in sickness. The present scales should, therefore, be made use of with due precaution. (p. 7.)

Corresponding intimation had been given in his first Rep.

Thus were the practical results of this most scientifically conducted investigation into the sickness experience of F. Sos. in a great degree defeated. (The mort. results were not affected by this process.) The mere exclusion of such excess of claims, in dealing with the data, did not, could not materially lessen them in practice—we say “materially,” for the fact of publicity being given may have tended to lessen—and hence the elaborate T. embraced in this Rep. were self-proclaimed to be unsuited to the main purposes for which the inquiry was orig. undertaken ! That they notwithstanding have a value, and a great value, to all engaged in such pursuits, we unhesitatingly assert.

In the 3rd ed. of Mr. Neison's *Vital Statistics* (pub. 1857) there is contained (preface, p. xxii) the following remarks upon the preceding Rep. :

Attention is particularly directed to the obs. and facts on pp. 440-6, on the Gov. Analysis of the sickness experienced by F. Sos. during the quinquennium 1846-50, and printed in Parl. papers No. 955, of 1853, and No. 506, of the year 1854. Since the disastrous pub. of the Highland So.'s T. in 1824, perhaps no other so unfortunate event as the pub. of what is termed the Gov. T. has arisen in the hist. of Benefit and F. Sos.; and into the nature of the mischief likely to be occasioned by it,

I have fully entered in the pages already referred to. A careful perusal of those obs. must satisfy any one having a practical knowledge of the man. of F. Sos. of the imminent danger of circulating such documents under Gov. sanction. If those entrusted with the analysis of the Gov. sickness returns had but asked themselves the simple question—What is the object of a F. So.? it is impossible they could have excluded from their analysis “chronic ailment,” “mere decrepitude,” “slight paralysis,” “blindness,” “mental disorder,” and “senile infirmity,” and have only included in the pub. results presented for the guidance of F. Sos. in the country, “sickness incapacitating from labour, requiring constant medical treatment, and of limited duration.” The object which a working man has in view, in joining a Benefit So., is not only to provide for sickness of *limited duration, requiring constant medical treatment*. If this were the only purpose of F. Sos., they would be nothing more than a delusion and a curse to the provident working man. Against sickness of *limited duration*, men whose prudent habits are sufficiently strong to retain their membership in F. Sos. for 2 or 3 years, can, without a struggle, make provision, even without the aid of a So.; but how many working men can contend against the vicissitudes of any description of “chronic malady” or protracted sickness? The true object and mission of F. Sos., when properly considered, and as regarded by the working man himself, is to afford him a competent support and complete independence during periods of sickness, incapacity, and disease, however protracted; and it is to accomplish this object that not only the earliest but the most recently and best organized Sos. make special provision. Their object is not to form a stepping stone to aid the industrious and prudent to pass from the active and manly independence of their days of vigorous labour, to the degraded pauperism of the workhouse. Were F. Sos. so constituted, they would be a disgrace to the country, and would never receive the support and sympathy of the people.

This is, however, the only practical effect which the general dissemination of the two Parl. papers referred to can have; for by causing F. Sos. to adopt scales of contributions and benefits, which make no provision for those very vicissitudes which are in fact most trying to a member's independence, he is, at a time when the least prepared for it, declared off the funds of the So., and has of course no alternative but to take shelter under the roof of the workhouse. . . .

We do not think it necessary to follow the criticism any further.

This year (1854) Mr. Henry Tompkins read before the Inst. of Act. a paper: *Observations upon the Sickness and Mort. experienced in F. Sos.* [Assu. Mag. vol. v. p. 6.] The following are his opening para.:

The Inst. of Act. is devoted to the consideration of all questions relating to assu.; and as life assu. occupies a prominent place in the daily occupations of many of its members, it is not surprising that papers on almost every conceivable topic in connexion therewith have been read before it. There are, however, various other kinds of assu. well worthy of inquiry, and among these may be classed Fire, Marine, Fidelity, and last but not least—when we consider the number of persons affected by it—Sickness Assu. It is true this last kind of assu. is almost confined to the working classes: they have no wealthy boards of managers; they have no man of science on their staff to direct their proceedings; and they are conducted by individuals who often possess no qualifications for such occupations. For all this, we must admit that every F. So. is a mut. assu. co.; and compelled by necessity, these Sos. have taken up the most difficult and complicated branch of assu. Not many actuaries have been much occupied with the subject: for it is a branch which does not sufficiently reward those who grapple with its difficulties. We are therefore under the greater obligations to those who attempt it. Up to the present time, however, I am afraid that the success has not equalled the endeavour.

It must be admitted that the law of sickness is a very difficult one to discover, on account of so many external circumstances complicating its action. Some even have been of opinion that no such law exists, because it has baffled so many endeavours to develop it. It is far more difficult to obtain facts relating to sickness than to death,—because, in the first place, *death has one common meaning among all classes; but it is not so with the word “sickness.”* Also sickness may be, and often is, feigned; but it is not so with mort. A death also occurs but once to an individual; but sickness attacks an individual at various periods of his life, and at each time with a different degree of intensity and duration. All these and other causes tend to complicate the subject; but I think there is no doubt that in this, as in all other matters, if we obtain a sufficient number of facts, the laws regulating their action can be discovered.

He proceeds to state that the ratio of sickness *had never been laid down with any near approach to accuracy until the pub. of Mr. Finlaison's late Rep. upon the Sickness in F. Sos.* “It has, I think I shall prove, been enormously overstated in all the works heretofore pub. on the subject. Whether this opinion will be shared by others, must depend upon their view of what appears to me to be conclusive.” He proceeds to refer to his contention in a former paper [1852] regarding the discrepancies between the various authorities as to the amount of prem. required for the same amount of sickness assu., and continues:

This, however, was said to have been caused by the very nice discrimination which the accuracy of the data obtained enabled us to make. Thus, it was supposed that a T. of prem. for an allowance of £1 p. week in sickness, estab. at Clapham, would, for substantial reasons, differ from a T. for a like assu. for a So. at Greenwich—that there was an ascertained difference between the sickness to be experienced by a So. composed of Butchers and another composed of Tallow-chandlers. It is true there are works which have attempted to lay down such nice distinctions in the law of sickness; but if the general sickness has been erroneously laid down in these works, it follows that all *particular* cases must be equally or even more erroneous. The discrepancies pointed out by me had, therefore, no foundation in the exquisite accuracy of the data made use of.

He considered that all T. for sickness assu. should cease at 60 years of age, instead of 70, to which they were mostly carried. He considered there was no satisfactory data from which to deduce the ratio for the higher ages; and that consequently “the contributions which had hitherto been demanded for them had ‘always been too high.’” That certainly “popular prejudice” had adopted this view: for out of 1600 Sos. “which during 4 years applied for the protection of the law, and were informed that the certificate of an actuary was an indispensable preliminary, 700 decided to be without such protection rather than obtain the certificate.” He thinks this was mainly because “the parties interested considered, and I believe with some reason, that their liabilities were estimated by an exaggerated standard.” He continues:

The circulation of incorrect data has induced the notion that Benefit Clubs in general are insolvent;

but when we measure their liabilities by such exaggerated standards as I shall endeavour to show have been put forth, it is astonishing that any were not included in the insolvent list. In illustration of this we may inquire, what would be the result if the liabilities of Life Assu. Cos. were estimated to include the debts of the assured as well as the special sums assured to their representatives? Very few, if any, would be solvent; yet such is the way, with the help of a few extreme cases, in which it has been attempted to be proved that F. Sos. in general are insolvent. It is true that some may be in that state; but before sentence be pronounced, we should be certain that we know the law.

He then institutes the following comparison, from the three latest authorities, of the average ann. amount of sickness experienced by members of F. Sos., pointing out that certain special classes had been omitted by Mr. Finlaison from his computation.

Comparative T. of the Average Ann. Sickness p.a. to each Person—expressed in Days.

Age.	Finlaison.	Ratcliffe.	Neison.	Age.	Finlaison.	Ratcliffe.	Neison.
18	6'8296	3'81	5'76	53	12'9882	15'97	16'56
19	6'9055	3'95	5'82	54	13'4090	17'37	17'70
20	6'8835	4'09	5'88	55	13'9455	18'98	18'93
21	6'9058	4'37	5'92	56	14'6288	20'78	20'27
22	6'8931	4'61	5'96	57	15'2382	22'86	21'96
23	6'8619	4'81	6'01	58	16'2291	25'22	24'00
24	6'8245	4'98	6'06	59	17'4330	27'86	26'40
25	6'8298	5'10	6'12	60	18'7348	30'79	29'16
26	6'8379	5'19	6'18	61	20'1717	33'98	32'27
27	6'8973	5'27	6'24	62	21'8270	36'86	36'33
28	6'9497	5'39	6'29	63	23'4850	39'43	41'35
29	6'9441	5'50	6'36	64	25'4208	41'68	47'32
30	6'9122	5'62	6'37	65	27'3564	43'61	54'25
31	6'8626	5'75	6'41	66	29'7893	45'23	62'13
32	6'8003	5'90	6'65	67	32'3540	48'39	70'48
33	6'8364	6'04	7'11	68	35'4239	53'07	79'28
34	6'9650	6'20	7'77	69	39'0656	59'28	88'55
35	7'1424	6'35	8'65	70	43'6153	67'02	98'27
36	7'4108	6'52	9'74	71	48'1807	76'29	108'45
37	7'6396	6'72	10'51	72	53'6783	84'54	118'76
38	7'8335	6'96	10'96	73	59'3229	91'77	129'15
39	7'9846	7'23	11'10	74	63'2823	97'99	139'66
40	8'2135	7'55	10'92	75	66'8123	103'19	150'26
41	8'4035	7'89	10'41	76	71'4833	107'38	160'97
42	8'5806	8'28	10'12	77	77'3931	113'06	170'16
43	8'7587	8'72	10'02	78	82'9178	120'29	177'82
44	9'0516	9'19	10'14	79	90'9886	129'06	183'97
45	9'3392	9'70	10'46	80	97'6832	139'38	188'58
46	9'5990	10'26	10'98	81	102'8451	151'28	191'68
47	10'0575	10'87	11'57	82	106'0442	160'84	195'34
48	10'5149	11'52	12'22	83	106'3780	168'02	199'56
49	11'0123	12'22	12'94	84	99'4289	172'83	204'35
50	11'4868	12'97	13'72	85	...	175'25	209'70
51	12'0145	13'77	14'57	86	...	177'20	215'62
52	12'4766	14'77	15'51	87	...	...	217'69

From an examination of the preceding cols. (says Mr. Tompkins) "I have come to the conclusion that both Mr. Neison and Mr. Ratcliffe, as well as others who have preceded them, have allowed claims on account of *superannuation* to come into consideration where claims for *sickness* only should have been admitted, and *that therefore their measures of the duration of sickness are of very little value.* With regard to Mr. Neison's work, I find that he does not refer to any such claims having been eliminated; and it is certain that a very great number of them are entered as *sickness* in the returns made, and especially at the advanced ages. Mr. Ratcliffe, however, states in his book that he had only the means of testing the accuracy of the *mort.*; and though the Odd Fellows have I believe no fund expressly called a superannuation fund, yet there is no doubt that they have both committed the same error, viz. *that of confounding claims on account of sickness with claims on account of superannuation, which are very different.*"

He had summed up the sickness experienced per individual between 18 and 50 with the following result: Finlaison 260 days; Ratcliffe 230 days; Neison 281 days. "Thus far the results corroborate the general accuracy of each." "The difference between the two obs. and the Returns is that Mr. Ratcliffe gives nearly one day's sickness p. year to each individual *less* than the Returns, while Mr. Neison shows about 15 hours in a year more than the Returns." After the age of 50 the results are widely different—"and I believe, for the reasons I have stated, with reference to the superannuation claims." Thus:

Sum of Sickness per Individual.	Finlaison.	Ratliffe.	Neison.
From age 50 to 60	147 days.....	208 days.....	205 days
„ 60 „ 70	299	469	610
„ 70 „ 80	712	1063	1528

Mr. Tompkins continues :

By admitting all cases of sickness so called (including superannuation), the following are the results which have been arrived at, viz. that Messrs. Neison and Ratcliffe both show that at age 60 every man is ill on an average *one month* in the year; at 70 every man has 2½ months' illness in every year; and at 75 it is said to increase to nearly 4 months; at 80, to 5 months; at 85, to 6 months, or half every man's time; and at 87 to 7 months in the year! If our aged worn-out work-people can really withstand such terrible attacks of sickness and live, they must certainly be possessed of more than ordinary British toughness. The truth, however, is that a very great proportion of the sexa, septa, and octo-genarians who are members of F. Sos. receive allowances on account of superannuation, being at the same time in very good health. It is a remarkable fact, that the celebrated actuary, Dr. Price, estimated, upon theory only, the average sickness to each individual with a very close approximation to the truth if we consider the Rep. [Finlaison's] to be the standard of it. . . .

He passes on to review the mort. results deduced by the same respective investigators, and furnishes the following T. :

Comparative T. showing the Number out of which One will Die. (F. Sos. Mort.)

Age.	Ratliffe.	Finlaison.	Neison.	Age.	Ratliffe.	Finlaison.	Neison.	Age.	Ratliffe.	Finlaison.	Neison.	Age.	Ratliffe.	Finlaison.	Neison.
18	181	149	161	35	111	121	121	52	49	61	62	69	15	20	20
19	173	141	152	36	110	116	118	53	46	58	59	70	15	18	18
20	166	135	148	37	107	112	116	54	43	53	56	71	15	17	17
21	153	133	147	38	104	105	113	55	41	49	53	72	14	16	15
22	140	133	147	39	100	100	110	56	39	45	50	73	14	15	14
23	137	137	145	40	95	97	106	57	36	42	47	74	13	14	14
24	132	141	144	41	90	94	103	58	34	40	45	75	13	13	13
25	129	141	143	42	86	91	99	59	31	40	42	76	12	12	13
26	127	141	141	43	82	90	96	60	28	38	40	77	11	11	12
27	126	137	139	44	78	87	93	61	26	37	38	78	10	10	11
28	124	132	137	45	75	83	89	62	24	35	35	79	9	9	11
29	122	128	134	46	72	80	86	63	22	34	33	80	8	8	10
30	120	130	132	47	69	76	82	64	20	30	31	81	7	7	9
31	118	127	130	48	65	74	78	65	18	27	28	82	6	7	9
32	116	125	128	49	61	70	74	66	17	25	26	83	6	6	8
33	114	125	125	50	57	67	70	67	16	23	24	84	5	6	8
34	113	125	123	51	54	64	66	68	15	21	22				

I remember (says Mr. Tompkins) being told by a most experienced and highly respected actuary, that the rate of mort. stated to prevail in F. Sos. was almost the same as saying that the working classes were immortal; and I know there are many who still object to it, because it is contrary to preconceived notions. "Let, however, the rate of mort. of the working classes in other circumstances be what it may, it is certain that as regards members of F. Sos., the general accuracy of this portion of the subject, in the three works before me, is so confirmed as to place it beyond all question. I think it would be difficult to point out many obs., made by different parties under different circumstances, which have more strikingly agreed in their results." It is equally open to the surmise, that they may have been each equally incorrect, from the circumstances which Mr. Finlaison has pointed out, or from some others.

The remainder of the paper is chiefly occupied with details of Mr. Finlaison's inquiry, which we have already fully reviewed; but towards its close a point of some interest is raised, to which the following is but introductory :

The average rate of *exclusions* and *withdrawals* in F. Sos. had not been pub. before the issuing of the late Rep. [Finlaison's]. This we find to be very heavy. Up to about the middle of life, the prob. of an individual leaving or being expelled from his So. is 5 or 6 times greater than the prob. of his dying while a member; and taking the whole of life, the same prob. is more than twice the prob. of dying while a member. This doubtless has an influence in determining the rate of mort. So long, however, as the working classes continue in their present social condition, and so many of them are migratory in their habits, the ratio of exclusions and withdrawals must always be high; but if, from any change of circumstances or habits, this rate should be permanently lowered, then we may expect a corresponding increase in the mort.

He then states his new point : "It has always appeared to me that the same reasoning which lessens the prem. for a sickness assu. by the amount of the prob. of living to receive it, also requires that the amount of the prob. of remaining in the So. to receive it should be deducted: because a death, an exclusion, and a withdrawal are equivalent in so far that each makes the receipt of the amount assured in sickness an impossibility; and each is alike the subject of calculation."

The following T. of the per-centage of exclusions and withdrawals, as observed by Mr. Finlaison, is then given :

"We have seen (he remarks) that the prob. of dying and the average amount of sickness increase with age, and as the vital powers become exhausted; it therefore appears plausible that the average duration of sickness should bear a certain relation to the mort.," and this he endeavours to demonstrate. We do not follow him, for we do not deem his reasoning at all conclusive; but we entirely concur in his remark: "At any rate, we may hope with the aid of new obs., the relation between sickness and mort. will be more clearly exhibited than it hitherto has been by those whose attention has been devoted to the subject." [EDMONDS, T. R.]

1855.—Mr. T. R. Edmonds contributed to the *Assu. Mag.* [vol. v. p. 127] a paper: *On the Laws of Mort. and Sickness of the Labouring Classes of England*, wherein is minutely reviewed some of the results arrived at by Mr. Neison, Mr. Ratcliffe, and Mr. Finlaison, in respect to the mort. and sickness of the members of F. Sos. The conclusions of the author hereon have been pretty fully reviewed in our historical art. on F. Sos. [LOCALITY.] [OCCUPATION.] [SICKNESS.] [TOWN LIFE.]

Age.	Exclusions, etc., p.c.
13	6.37
18	5.85
23	5.25
28	4.52
33	3.51
38	2.62
43	1.94
48	1.43
53	1.20
58	.99

Same year Mr. Neison, sen., made an investigation into the affairs of the *Christian Mut. Prov. So.* up to Dec. of this year. The following are the results, briefly stated: During the 5 years then terminated there had been 4461 male, and 1848 female members—together, 6309. Of these 1691 males and 624 females—together 2265—had left the So. There had died, in add., 68 male and 30 female members—together 98. The bal. therefore remaining was 3966 members, viz. 2772 males and 1194 females, entitled to benefit.

Of the 4461 male members constituting the So. during the years 1851–5 each had 5 days' sickness p.a.; while of the female members of the So. during the like period, each had 1 week and 1 day's sickness p.a.

The aggregate result of the sickness experience of both male and female members from the commencement of the So. in 1847 had been that the male members had had 17½ p.c. less, and the female members about 11 p.c. more sickness than the T. of the So. [? Neison's] had provided for—the average being a saving to the So. of about 10 p.c.; the greater health of the male members, of whom the So. was mainly composed, so far counteracting the influence of the female members upon the funds.

1857.—Mr. F. G. P. Neison pub.: *Contributions to Vital Statistics: being a Development of the Rate of Mort. and the Law of Sickness, from Orig. and Extensive Data; with an Inquiry into the Influence of Locality, Occupations, and Habits of Life on Health; an Analytical View of Railway Accidents; and an Investigation into the Progress of Crime in E. and W.* This was the 3rd and much enlarged ed. of his work of 1845, already fully reviewed; and we do not find anything in this ed. calling for special comment here. Under LOCALITY, as also under OCCUPATIONS, many of its facts will be considered.

1862.—The second issue of Mr. Henry Ratcliffe's *Obs. on the Rate of Mort. and Sickness existing among F. Sos.* was made this year [1st issue, 1850]. We do not propose to examine this issue minutely here, mainly because we shall have to deal with the 3rd issue, in 1872, under that date. We shall therefore confine ourselves solely to its new features. The author says in the preface of the ed. now before us:

Two new features have been introduced into the present work. Many Sos., and many branches of the large affiliated bodies, adopt a generally diminishing rate of sick allowance, according to the duration of any continued incapacity to follow the usual, or some other employment. The present values, etc., of these various reduced gifts are therefore given; and likewise the present value, and the contributions equivalent thereto, of a sick allowance and an assu. at death, when the gain to the So. from lapsed pol.—including those resulting from secessions and expulsions, has been included in the calculations. Many objections have been made, and some of them of considerable weight, against the practice of periodically reducing the rate of sick allowance; but this is a question for philanthropists and the provident working men to decide, and not the actuaries. To those conversant with the working of F. Sos., this practice is known to be the rule rather than the exception. It was therefore deemed advisable that such information as could be derived from the Returns should be given, in order that branches adopting the principle of a diminishing sick allowance might be able to adjust their rate of in-payments in accordance with the results obtained from past experience, rather than by any arbitrary or hap-hazard method, which has to a great extent hitherto prevailed.

Some of the other points embodied in the preface have been reviewed in our historical art. on F. Sos.

The new T. therefore in the present issue are of three categories—1. Sickness during periods of time. 2. Secessions and expulsions. 3. Assu. on the death of a member's wife. We proceed to deal with these in the order stated.

1. *Sickness during Periods of Time.*—Under this head Mr. Ratcliffe says: It being customary with the majority of Lodges of the *Manchester Unity* to allow certain benefits for a certain period of time, and at the termination of such period to make a reduction in the sick allowance—some adopting one, others another period of time—it was considered advisable, in analyzing the returns, to keep the sickness experienced in the 1st, 2nd, 3rd, and 4th six months, and the sickness after that time separate and distinct, for the purpose of preparing T. of payment for those who, of their own choice, adopt this principle. He adds:

It is well known that many who are well-wishers to the Unity and other F. Sos. very much condemn

this principle of reduction of benefits at a time when the full sick allowance would be most useful to the member. But if a person is desirous of contracting for a sick allowance during life, or in place of sick allowance during life, a sick allowance to age 70, and an annu. after that time, *the contribution must be raised to such an amount as many members would not willingly pay, but would decline to insure for relief during sickness.* It is therefore preferable that they should insure against sickness even for a limited period rather than take no heed for the future.

Again, members of F. Sos. have power to form their own rules, and certainly they have, or should have power within themselves to say whether they will pay a certain sum and receive limited benefits, or a higher rate for increased sick allowance, either in amount or unrestricted by time. It is very desirable that Sos. should have proper T. of payments duly certified, and should allow persons on joining to contract for *either benefit*—as in neither case, with proper T., would the So. be a loser.

Objections have been raised to a sick allowance during life, on account of extensive data not having been hitherto obtained, whereon calculations sufficiently reliable could be made to justify an actuary in certifying the T. There is no doubt that for isolated Sos., wherein full sick allowance is paid for life, *there is not absolute safety in any T. calculated on the experience hitherto obtained, unless there is a sufficient number of members in such So. to realize average results.*

In analyzing the returns of the *Manchester Unity* it was seen that, for the first 6 months, the sickness was constant and regular, even with a small number of lives; in the next 6 months it became more fluctuating; *and the more the period was extended the greater was the fluctuation.* When the sickness after 2 years was taken, it was seen that in many instances a large quantity of lives extracted presented no sickness; and in other instances many cases arose together. If reference be made to the T. which we shall next give—and which shows the average sickness experienced—it will be seen how regular the increase takes place where a large number of lives are under obs. “With a small number it is irregular and fluctuating, and does not give a proper average.” Mr. Ratcliffe adds:

There is no doubt but that Affiliated Sos., similar to the M. U., are in a position, and might with safety use T. for payment of sick allowance during life, by adopting a rule to this effect, *that all benefits during the first 12 months should be paid by the Lodge or Branch, as a kind of test of the person's sickness.* In the M. U., and many other similar Sos., a number of branches join themselves together, for the purpose of forming a So. for the payment of an assu. at the death of any member. After the 12 months' sickness all the future sick benefits should be paid out of this general fund, to which each branch contributes; and this increase of members would give a sufficient base to enable the So. to pay sick benefits during the whole of life.

For their greater protection—in fact, one of the greatest protections F. Sos. can have—a *valuation should be made of their assets and liabilities, at the termination of every 5 years.* Should either loss or profit then appear, the payments can be so regulated as to prevent any member suffering an injustice.

We now turn to the T. :

T. [No. XLI. in book] showing the *Average Amount of Sickness experienced for any of the following Periods, from the Returns of the Manchester Unity—Rural, Town, and City Districts combined.*

Age.	First 6 Months.	First 12 Months.	Third 6 Months.	Second 12 Months.	After 2 Years.	Age.	First 6 Months.	First 12 Months.	Third 6 Months.	Second 12 Months.	After 2 Years.
18	'7902	'8195	'0029	'0032	'0038	50	1'2049	1'3840	'0885	'1471	'3150
19	'7851	'8165	'0042	'0058	'0040	51	1'2838	1'4595	'0922	'1628	'3418
20	'7800	'8135	'0054	'0091	'0034	52	1'3246	1'5388	'1100	'1826	'3791
21	'7698	'8079	'0067	'0128	'0046	53	1'3874	1'6218	'1239	'2065	'4267
22	'7596	'8013	'0114	'0159	'0068	54	1'4521	1'7086	'1400	'2346	'4846
23	'7498	'7947	'0135	'0187	'0100	55	1'5187	1'7991	'1581	'2668	'5530
24	'7401	'7879	'0153	'0210	'0129	56	1'5872	1'8933	'1784	'3031	'6319
25	'7307	'7807	'0169	'0229	'0162	57	1'6635	1'9603	'2001	'3427	'7700
26	'7217	'7733	'0183	'0243	'0197	58	1'7676	2'1100	'2232	'3862	'8567
27	'7150	'7684	'0196	'0259	'0235	59	1'8394	2'2526	'2477	'4330	'9825
28	'7108	'7663	'0204	'0278	'0271	60	1'9391	2'3981	'2777	'4832	1'1432
29	'7091	'7667	'0218	'0299	'0307	61	2'0465	2'5505	'3010	'5368	1'3107
30	'7098	'7698	'0227	'0323	'0346	62	2'1523	2'7157	'3230	'5886	1'5107
31	'7132	'7755	'0234	'0347	'0386	63	2'2565	2'8701	'3574	'6386	1'7430
32	'7183	'7837	'0240	'0376	'0446	64	2'3591	3'0256	'3864	'6867	2'0016
33	'7254	'7933	'0245	'0408	'0638	65	2'4601	3'1802	'4160	'7530	2'2688
34	'7343	'8054	'0248	'0445	'0649	66	2'5595	3'3339	'4461	'7774	2'6039
35	'7452	'8196	'0250	'0485	'0786	67	2'6736	3'5135	'4921	'8534	2'9729
36	'7579	'8359	'0255	'0528	'0947	68	2'8024	3'7192	'5542	'9611	3'3954
37	'7729	'8542	'0263	'0576	'1100	69	2'9858	3'9508	'6322	1'1003	3'8697
38	'7903	'8741	'0289	'0627	'1252	70	3'1039	4'2084	'7262	1'2710	4'3978
39	'8079	'8972	'0327	'0683	'1385	71	3'2766	4'4920	'8362	1'4776	4'9771
40	'8319	'9219	'0379	'0742	'1519	72	3'4229	4'7408	'9357	1'6553	5'5882
41	'8561	'9506	'0443	'0805	'1622	73	3'5422	4'9549	1'0243	1'8160	6'2189
42	'8828	'9848	'0499	'0864	'1712	74	3'6366	5'1342	1'1023	1'9559	6'8752
43	'9120	1'0185	'0547	'0920	'1846	75	3'7039	5'2788	1'1698	2'0750	7'5550
44	'9436	1'0577	'0587	'0972	'1962	76	3'7447	5'3886	1'2265	2'1731	8'2566
45	'9776	1'1005	'0620	'1021	'2084	77	3'7532	5'4487	1'2712	2'2593	8'9832
46	1'0141	1'1387	'0643	'1066	'2307	78	3'7296	5'4589	1'3037	2'3348	9'5342
47	1'0551	1'1951	'0682	'1133	'2437	79	3'6736	5'4195	1'3240	2'3985	10'5094
48	1'1005	1'2518	'0735	'1223	'2650	80	3'5853	5'3302	1'3323	2'4507	11'3098
49	1'1504	1'3148	'0803	'1336	'2887						

In this T. it will be noticed that the same law is observable in the first 6, and 12 months, as appears when all the sickness is combined, viz. *a decrease in the average rate of sickness for a number of years*, and from that time an increased sickness to the end of the T. In the third 6, and second 12 months, although the average sickness is not very great for these limited periods of time, yet there is an increased rate for every year of life. In the early ages of the T. it will be observed how very small the sickness is after the first 2 years, and how rapidly it accelerates until it far exceeds the average sickness experienced the first 2 years.

T. next follow showing the money values of: 1. A "Sick-gift" for the first 6 months, the second 6 months, and for any sickness after the first 12 months [T. No. XLII.]. 2. Of a Sick-gift for the first 12 months, the second 12 months, and for any sickness after the first 2 years [T. No. XLIII.]. 3. Of a Sick-gift for the third and fourth 6 months, and after 18 months' sickness [T. No. XLIV.]. From these T. have been obtained the ann. prems. payable for life, shown in T. No. XLV. We do not think it necessary to reproduce either of these T.

2. *Secessions and Expulsions.*—What is here understood by secessions is, all members leaving the Unity by their own act and deed, either for non-payment of contributions, fines, or any other account except expulsion for violation of some rule. According to a Rep. issued by the Directors of the M. U. about 18 years ago (says Mr. Ratcliffe) it is very certain that there was at that time a very large quantity of members joining and leaving the Order; *and that since that period the secessions have annually decreased until the last few years*, when the same have become more regular. The Rep. referred to contained the following para.:

The amount of initiation money which was received from members in 1844, being no less a sum than £49,382, it will be discovered on reference to the list of Lodges, that our increase of members in that year was only 21,461; and by these Returns it is clearly proved that upwards of 40,000 members were initiated in 1844; thereby at once affirming that upwards of 20,000 members left the Order in one year [see our hist. art. under date 1840, for many details regarding the M. U.] after paying their initiation money and contributions for a length of time. We are of opinion that the particular attention of the members of the Order should be drawn to this important fact, with a view of arriving at the true cause why so many have left the Order.

From the above quotation it is seen that 20,000 members left the Unity by deaths, secessions, and expulsions; and as there were at the commencement of that year 234,518 members, "and assuming for that year the same rate of mort. as experienced for the last 5 years, 1887 p.c., there would have been 2787 deaths, leaving 17,212 members seceded and expelled from the Unity in 1844—being 7.38 p.c. of the entire number."

We are further told that in the year 1848 for the first time, detailed Rep. were given of the position of the Unity so far as regards the number of initiations, deaths, secessions, and expulsions. On the 1st Jan. 1847, there being then 257,005 members, it was seen by the Returns received on the 1st Jan. 1848, that 13,666 members had left the Order by secession and expulsion. "In this would be included all the members in the Colonies, all persons entering the So. and leaving before entitled to benefits. The average rate of secession by members entitled to benefits, during the 5 years 1856-60, has been 2.67 p.c. Mr. Ratcliffe adds hereon:

In the data from which Mr. Finlaison obtains the amount of sickness and mort., the average rate of secessions, etc., is 3 p.c. *It has been already stated that no person has in any manner been included in this experience unless he was entitled to benefits.* It is seen in analyzing the Returns that a very large number of persons joined the Unity, but left without attaining that position—and principally to this cause may be attributed the difference in the per-centage of secessions, as shown by the ann. statement, and shown by these Returns when analyzed.

If within a period of 17 years the Order has so much improved with respect to this element, may not further improvement be expected to take place during the next few years? *Gentlemen of high position have, in making calculations, taken into consideration this element.* However, if exercised at all, it should be with the greatest caution. On the other hand, it is considered by some that such an element ought not to be taken into account in any calculation for future payments, but that the proper time for making use of the profits of any lapsed pol. is when the valuation of the So.'s assets and liabilities is ascertained. *Then, and then only, should these profits be appropriated to the use of the members.*

T. [No. XLVII. in the book] showing the Number of Members Seceded and Expelled from those Branches of the Manchester Unity who have furnished Returns for 1856-60:

Age.	No.	Age.	No.	Age.	No.	Age.	No.	Age.	No.
18	1	29	927	40	338	51	80	62	11
19	14	30	860	41	305	52	58	63	8
20	234	31	828	42	288	53	56	64	3
21	496	32	715	43	244	54	48	65	2
22	841	33	700	44	225	55	47	66	8
23	1142	34	621	45	197	56	38	67	2
24	1336	35	556	46	181	57	34	69	1
25	1355	36	497	47	143	58	25	70	2
26	1247	37	474	48	151	59	35	74	1
27	1171	38	477	49	109	60	17	77	1
28	1135	39	394	50	80	61	19		

It was considered advisable (we are further told) in giving the foregoing T. to the members of the Unity, to state that they were given, *not with a view to their practical use, but owing to the many opinions expressed as to the rate of profits coming to the Asso. from this element.* It was therefore thought proper to place the same before the members for their judgment thereon.

It will be observed from this T. that the great bulk of the members leave early in life—*therefore they are not so profitable as if they had remained a longer period.* “It must be considered that the value of their contributions is highest at the early ages; therefore the longer they remain, up to a certain period, provided they do leave the So., the greater is the profit derived from their secession.” “It is very apparent that the members of increased ages place more value on being connected with a So. of this nature: for, as the members increase in age, the secessions gradually become less.”

The following T.—which is one of considerable interest, and we believe entirely original—shows how the members die off and leave the So. by secession, etc. “It must be distinctly understood that from the past we have a fair reason to anticipate future experience. So far as regards the rate of mort., with the exception of slight improvements from sanitary and other causes, it may be expected that like results will occur; but it is very prob. that as inst. similar to the Unity become more valued, less secessions will take place.”

T. [No. XLVIII.] showing the Mortality and Secessions—Manchester Unity—Rural, Town, and City, combined.

Age.	Living.	DYING.		SECESSIONS, &c.		Age.	Living.	DYING.		SECESSIONS, &c.	
		per cent.	At each Age.	per cent.	At each Age.			per cent.	At each Age.	per cent.	At each Age.
18	100,000	'86	867	1'19	1193	51	37,643	1'77	669	'51	194
19	97,940	'85	837	1'62	1598	52	36,780	1'86	685	'47	176
20	95,505	'84	805	2'05	1960	53	35,919	1'98	712	'44	159
21	92,740	'81	760	2'47	2351	54	35,048	2'11	742	'43	151
22	89,629	'79	717	2'90	2601	55	34,155	2'20	754	'42	144
23	86,311	'78	677	3'31	2863	56	33,257	2'43	809	'41	137
24	82,771	'77	640	3'29	2725	57	32,311	2'61	845	'40	130
25	79,406	'76	608	3'26	2588	58	31,336	2'81	882	'39	123
26	76,210	'76	581	3'24	2470	59	30,331	3'03	919	'37	113
27	73,159	'76	559	3'21	2353	60	29,299	3'26	951	'35	102
28	70,247	'76	540	3'19	2247	61	28,246	3'54	1000	'33	93
29	67,460	'77	525	3'00	2030	62	27,153	3'78	1029	'30	84
30	64,905	'79	513	2'82	1834	63	26,040	4'07	1059	'28	75
31	62,558	'80	505	2'64	1654	64	24,906	4'36	1087	'28	70
32	60,399	'82	501	2'46	1487	65	23,749	4'67	1111	'28	66
33	58,411	'85	499	2'28	1331	66	22,572	5'02	1133	'27	62
34	56,581	'88	501	2'11	1195	67	21,377	5'34	1142	'27	58
35	54,885	'92	506	1'94	1068	68	20,177	5'70	1150	'26	54
36	53,311	'96	512	1'77	948	69	18,973	6'08	1153	'22	43
37	51,851	'99	518	1'61	836	70	17,777	6'47	1151	'18	33
38	50,497	1'03	527	1'44	737	71	16,593	6'89	1143	'14	24
39	49,233	1'06	526	1'35	665	72	15,426	7'38	1139	'10	16
40	48,042	1'10	529	1'25	603	73	14,271	7'93	1132	'06	9
41	46,910	1'13	530	1'15	544	74	13,130	8'55	1123	'09	12
42	45,836	1'14	526	1'06	487	75	11,995	9'24	1108	'12	15
43	44,823	1'20	542	'96	434	76	10,872	9'98	1071	'15	17
44	43,847	1'25	551	'89	394	77	9,784	10'75	1057	'19	18
45	42,902	1'31	563	'83	356	78	8,709	11'41	994	'22	19
46	41,953	1'37	575	'76	319	79	7,666	12'09	931	...	...
47	41,089	1'43	591	'69	285	80	6,765	12'79	865	...	...
48	40,213	1'51	607	'62	251	81	5,900	13'43	792	...	...
49	39,355	1'58	625	'58	232	82	5,108	14'37	734	...	...
50	38,498	1'67	643	'55	212	83	4,374	15'58	681	...	...

It is here seen that out of 100,000 members at age 18 entering the So., 867 members die during the year; and that 1193 members leave the Unity by *Secessions and Expulsions.* Taking another age, 30, and it is seen that out of 100,000 members who enter at 18, but 64,905 then remain in the So.—the others have died or left the So. by secession or expulsion. During this year of life, out of 64,905 members, 513 die off, and 1834 leave the Unity—a greater number out of a less number than left the Unity at age 18. “Taking this T., and assuming a So. of 100,000 members at age 18 to commence making provision for an assu. at death: owing to the numbers leaving the So., and the deaths that take place, the So. is reduced to half its orig. number between the ages 38–9. When the So. terminates its existence, and the last life dies off, 45,048 members have left it by secession and expulsion, leaving only 54,952 members to be provided with an assu. at death.”

The rate p.c. of secessions appears to increase from 18 to 23,—being then the highest ; and from that age the per-centage becomes gradually less, with a very slight exception after age 70. From age 18 to 41 the secessions over-number the deaths ; and from the latter age a reverse takes place, when the deaths rapidly increase, and out-number the secessions.

We next approach the question of money values, and here we learn that the present value of a *sick-gift* is very considerably reduced, on account of the secession of members at the earlier ages ; “few of this class remaining in the Order up to a late period. When sickness begins to increase, the secessions diminish : consequently reducing the difference in the present value of a sick-gift, when compared with the experience of the Unity, without secessions included.” The following T. shows this in a very clear light :

T. showing the Value of two Sick-gifts, both being similar in Circumstances, Secessions excepted ; and the Sick Allowance being for Life.

Age.	With Secession.			Without Secession.			Difference.		
	£	£	s. d.	£	£	s. d.	£	£	s. d.
20	24'8156	=	24 16 4	39'8427	=	29 16 10	15'0271	=	15 0 6
25	29'5920		29 11 4	44'6866		44 13 9	15'0946		15 1 11
30	36'9664		36 19 4	49'3137		49 6 3	12'3473		12 6 11
35	45'4934		45 9 10½	54'9296		54 18 7	9'4362		9 8 8½
40	54'2909		54 5 9	61'2778		61 5 6½	6'9869		6 19 8½
45	63'3462		63 6 11	68'4198		68 8 5	5'0736		5 1 6
50	73'0513		73 1 0½	76'5265		76 10 6½	3'4752		3 9 6

The present value of the *sum payable at death* is also affected, although not in a like degree. “Members are annually leaving the So., and by so doing leave the amount contributed by them, intended as provision for later years. It is very evident if only 54,592 out of 100,000 members remain in the So., and many of those leave, having contributed, some for a longer and others for a less number of years, the payment required from those who remain members would be reduced by the amount received from all persons having left the So.” This is also shown in the following T., the amount insured being assumed to be £10 in each case :

T. showing the Present Value of an Ins. of £10 at Death, with and without the Element of Secession—Mort. T. Rural, Town, and City Districts combined.

Age.	With Secession.			Without Secession.			Difference.		
	£	£	s. d.	£	£	s. d.	£	£	s. d.
20	2'095	=	2 1 10½	3'317	=	3 6 4	1'222	=	1 4 5½
25	2'438		2 8 9	3'618		3 12 4½	1'180		1 3 7½
30	2'996		2 19 11	3'966		3 19 4	970		0 19 5
35	3'620		3 12 5	4'363		4 7 3	743		0 14 10
40	4'223		4 4 5½	4'773		4 15 5½	550		0 11 0
45	4'819		4 16 4½	5'233		5 4 8	414		0 8 3½
50	5'410		5 8 2½	5'724		5 14 5½	314		0 6 3

Here too the difference is nearly all at the earlier ages.

The *Annuity* values are affected in a corresponding degree, as shown in the following T.:

Age.	With Secession.				Without Secession.				Difference.			
	£		£	s. d.	£		£	s. d.	£		£	s. d.
20	15'0083	=	15	0 2	21'7988	=	21	15 11½	6'7905	=	6	15 9½
25	15'1515		15	3 0½	20'9141		20	18 3⅞	5'7626		5	15 3
30	15'7171		15	14 4	19'6508		19	13 0	3'9337		3	18 8
35	15'8706		15	17 5	18'3512		18	7 0	2'4806		2	9 7
40	15'4104		15	8 2	16'9431		16	18 10½	1'5327		1	10 8
45	14'4485		14	8 11½	15'3650		15	7 3½	9165		0	18 3½
50	13'1140		13	2 3½	13'6785		13	13 7	5645		0	11 4

We have given the preceding T., as Mr. Ratcliffe gave them, rather as illustrations than as examples to be followed. Such a test as applied to Sos. generally would be a *variable one* ; and the only wise course is to leave these influences to proclaim themselves for the benefit of the members generally, at the periods of valuation. Mr. Ratcliffe gives various other T. showing effect on ann. and other contributions of members.

3. *Assurance on Death of a Member's Wife.*—Referring to the custom in many Mut. F. Sos. to allow a sum of money on the death of a member's wife, Mr. Ratcliffe says : . . . In some cases the allowance at the death of a wife is equal to that allowed at the death of a member ; in other instances one-half the sum is allowed. There are instances where Sos. allow only a certain sum at the death of a member : but should he be married and his wife dies previously

to himself, he is at liberty to receive one-half the assu. at her death, and the remainder to be paid to his representative at his death. In all these cases it is the general custom to charge to single and married members the same rate of ann. prem.—which is both injudicious and very unfair to the members who never marry.

In other cases Sos. charge an ann. sum to be paid by members who desire to contract an assu. on the life of the wife. The following T. has been prepared to enable Sos. to grant an assu. on the life of the member's wife, by an ann. payment made during the joint lives, and which payment would cease, either on the death of the wife,—at which time he would receive the amount of assu.—or it would cease, according to the contract, at his death, he being no longer a member of the So.

Whether the member contracts to pay an ann. prem. until the death of himself or his wife takes place, or he contracts to pay an ann. prem. during his life, makes no difference to the So.

In the first-named case it is clear that as the ann. prem. would cease either at the death of himself or his wife, the ann. prem. would be higher; in the latter, the ann. prem. being payable during the member's life, does not cease at death of the wife: therefore a less ann. prem. is required. Further:

... Charging this ann. prem. to members who derive the benefit from the assu. is only fair and just; and if a scale of payments fair to the member and just to the So. be estab., he could according to his circumstances ins. for a less or a greater sum, as he felt enabled to pay for. Also the members not married would be exempt from this payment, but could at any future time contract an assu. with the So.—the future ann. prem. being dependent on the age of the member and his wife, at the time of making the contract.

In many Sos. it is customary to allow a widow on the death of her husband to contribute a certain amount to the So. ann., and at her death her representatives have a claim for the amount of benefit allowed; and the Districts composing the M. U. appear to adopt one fixed payment, whatever the age of the widow may be. It must be very apparent that this is unjust to the So.: as younger persons who would prob. pay such an amount as to meet their liabilities will not often avail themselves of this assu.; but the So. is certain to receive a claim from others who are more advanced in years, and very prob. bringing far greater liabilities than the value of their ann. payments.

If a member was desirous of contracting an assu. on the death of his wife, and to pay an ann. prem. only so long as he or his wife might live, according to the rate of mort. experienced for the years 1856-60 in the M. U., he should be charged the ann. prem. given in the last col. of the T.; but if he be desirous of effecting an assu. on the death of his wife, such ann. payment to be continued during his life, then the ann. prem. in the 3rd col. of T. LIV. give the sum that should be charged for such assu.

No assu. of this nature should be granted to a member unless he has effected an assu. for sickness and death on his own life, and for such an amount as would be binding that he made good all future payments; for by effecting such assu. without such guarantee, in case of the death of the female, the So. would suffer a loss: as the member, having no further claim, would cease to make good his payments.

Quinquennial Abstract of T. [No. LIV.] showing the Present Value of an Assu. of £1 at Death of Female, providing the Male be then living; the Ann. Prem. payable until one of the Lives die off; and the Ann. Prem. payable Quarterly during the Life of the Male. Mort. of M. U.; lives of equal ages; interest 3 p.c.

Age.	Present Value of an Assurance.		Ann. Prem. Payable during Member's Life.		Ann. Prem. Payable during Both Lives.	
	£	£ s. d.	£	£ s. d.	£	£ s. d.
18	'22523	= 0 4 6	'00991	= 0 0 2½	'01228	= 0 0 3
20	'22895	0 4 7	'01021	0 0 2½	'01264	0 0 3
25	'24165	0 4 10	'01127	0 0 2½	'01409	0 0 3½
30	'25867	0 5 2	'01273	0 0 3	'01607	0 0 3½
35	'27776	0 5 6½	'01464	0 0 3½	'01874	0 0 4½
40	'29830	0 5 11½	'01698	0 0 4	'02219	0 0 5½
45	'32135	0 6 5	'02009	0 0 4½	'02698	0 0 6½
50	'34602	0 6 11	'02419	0 0 5½	'03371	0 0 8
55	'37089	0 7 5	'02953	0 0 7	'04309	0 0 10½
60	'39552	0 7 11	'03687	0 0 8½	'05678	0 1 1½

It is important to bear in mind that the values in the preceding T. have been calculated on the assumption that *the ages of members and their wives are equal; and that the same rate of mort. is experienced by members and their wives.* "This not being exactly the case, the T. are given more as a model; and from the great difference which has been shown to be experienced by persons of different trades, *should only be used with great care and caution.*"

It was understood that the data included in the Obs. now under review were based upon Returns obtained from the whole Order for the 5 years ending with 1860, and extended to 1,006,272 years of life, and an experience of 1,321,202 weeks of sickness.

We shall deal with Mr. Ratcliffe's 3rd issue under date 1872.

Italy.—Under our historical art. on F. Sos. we have given the Mort. and Sickness experienced by Italian F. Sos. during this year. But the results of two sets of obs. show such opposite results that we doubt if any great reliance can be put upon them. Further obs. are clearly necessary.

1870.—There was printed: *Rep. upon the Sickness Exp. of the Ancient Order of Foresters for the Year 1870; presented to the Executive Council by F. G. P. Neison, Esq., F.S.S., Member of the Court "Duke of Argyll," No. 2630.* This contains information of much interest. We do not dwell upon it here, as we have to review the results of a more extended investigation under date 1873.

1871.—Mr. Neison, jun., pub. a pamph. *On our Present Knowledge of the Mort. and Sickness of Members of F. Sos., etc.* The contents embrace a Review, more or less elaborate, of the data founded on actual observations, the greater part of which we have reviewed in the present art. Criticisms are freely offered, and some very useful practical hints may be obtained. The entire pamph. was printed in Appendix B. of the 3rd Rep. of the Royal Commission on F. Sos. 1870 (p. 222). Many of the points it deals with are already noticed in the present art. The following T. contained in it is of a very simple and yet comprehensive character. We arrange the data chronologically.

T. showing the Sickness Experienced in WEEKS in passing through different Periods of Life, according to various Data :

Data.	20 to 30	30 to 40	40 to 50	50 to 60	60 to 65	65 to 70	70 to 75	75 to 80
Dr. Price's Hypothesis	10·8	13·0	15·7	19·2	10·8	.....	.....	.....
Highland So.	5·9	6·7	9·7	17·8	14·4	33·6	.....	.....
Ansell	8·1	9·5	13·4	22·6	20·3	38·4	.....	.....
Neison	8·7	9·9	14·8	27·1	26·6	50·7	84·9	120·5
Odd Fellows	8·0	9·5	14·0	26·1	24·2	37·2	59·8	83·1
Finlaison	9·8	10·3	13·4	20·0	15·7	23·4	38·3	55·7

We quote the concluding para. of the pamph., which certainly opens up some points for reflection.

Before concluding we would observe that in connexion with any new Gov. investigation on the subject of the Mort. and Sickness of Benefit Sos., whether it might not be an undoubted advantage for the obs. not to be confined to a period of merely 5 years—and thus doubtlessly influenced in a great degree by the circumstance of whether it was a quinquennium of peace and plenty, high wages and great demand, or the reverse, of war and dear provisions, employment difficult and wages low—facts which must of necessity materially affect the working classes and their relations with F. Sos. *Though we ourselves do not think that any great variation between the results of different quinquenniums would be apparent: yet we have thought it advisable to refer to the point, as we are aware many are of a different opinion.*

1872.—There was this year pub. under title of *Independent Order of Odd Fellows, Manchester Unity F. So.: Supplementary Rep.*, July 1st, 1872; understood to be by Mr. Henry Ratcliffe, in continuation of his *Observations*, 1850 and 1862. After a brief review of the data upon which the former Obs. had been based, we are now told the following facts regarding the present Obs. :

As the time had arrived for the Regis. of F. Sos. to call for the Quinquennial Returns of Sickness and Death, the Directors considered it advisable to issue duplicates of those Returns to all Lodges in Gt. Brit., Ireland, and the Channel Islands; and being received by the Board of Directors, it was considered advisable, by the Deputies assembled at Bury St. Edmunds A. M. C., that these Returns should be analyzed and dissected, and the results—with the present value of and ann. premiums for annu., sick and funeral benefits, sick benefits for limited periods—should be printed for the use of members.

This "Experience" is stated to be the "largest ever collected by any person, or So." It includes 1,321,000 years of life, experiencing 1,975,032 weeks of sickness—being more than double the years of life embraced in the Obs. of 1846-8 [1850], and exceeding that of 1856-60 [1862] by more than 300,000 years of life.

The Returns having been obtained were passed through the processes of examination, and compilation, with painstaking scrutiny. Their contents were classified into Rural, Town, and City Districts. The *Rural Districts* include all Rural Townships or small Villages, containing under 5000 inhabitants. The *Town Districts* include all those branches situate in Towns holding less than 30,000 inhabitants, or in small Towns bordering upon large Towns or Cities. The *City Districts* include the members of all Lodges held in any City or Town having more than 30,000 inhabitants.

From these Returns were afterwards extracted *Miners* and *Colliers*. The sickness and mort. experienced by these are included in the General Class—but it is also given separate and distinct from the other classes.

When the Returns had been classified as above, the sickness for the 1st six months, 2nd six months, 3rd six months, 4th six months, and after 2 years; also the *deaths* and *secessions* at each age; were also specially taken out.

The classification being thus far completed, the number of members at each age; the amount of sickness at every age and for every period; the number of deaths and secessions at every age; were also extracted. The results are embodied in the 8vo. vol. of 186 pages before us. We do not propose to reproduce the T.; but rather as briefly as possible to explain their variations from the results of 1850 or 1862.

Mortality.—The following is a general review of the results shown by the T. given by Mr. Ratcliffe:

In the *Rural Districts* one-half the members live to age 66, and die off gradually afterwards; 41,972 live to enter on the 70th year of life. In the *Town Districts* half the members live to age 64, and only 37,150 persons live to the age of 70. In the *City Districts* half the members live to age 62, and only 32,664 persons live to age 70. Out

of 100,000 persons living at age 18 in the Rural Districts, 8308 more persons are living on arriving at 70 years of age than in the City Districts.

If the rate of *mort.* be compared with that of the whole of E. and W., as given in *English Life T.* No. 2, it is found to be far more favourable in the Rural Districts of the Unity up to the end of the T.—the difference being greatest at the early ages, but gradually approximating as the ages advance. If compared with the *Healthy Districts* [ENGLISH LIFE T. (HEALTHY DISTRICTS)],

In the *Town Districts* the rate of *mort.* is more favourable up to age 62 than it is in the whole of E. and W. After that age it is greater than in E. and W.

In the *City Districts* of the Unity the rate of *mort.* is more favourable to age 47 than in the whole of E. and W.; after that it is greater at every age.

When the 3 Districts are combined, the rate of *mort.* in E. and W. is greater up to age 70 than the rate of *mort.* in the Unity; from that age to 80 the rate of *mort.* in the Unity is very near, but slightly in excess of, the rate of *mort.* in the whole of E. and W.

As compared with the “after-life” of E. and W., the *expectation* of the members in the Rural Districts compares most favourably at all ages. At age 20 the difference in favour of the Rural Districts of the Unity is 3.01 years; at age 30, 2.31; 40, 1.81; 50, 1.34, and thence gradually diminishing to the end of the T. If compared with the “Healthy Districts” of E. and W., the *expect.* is not so favourable—there being a slight difference against the Unity.

In the *Town Districts* the *expect.* is more favourable up to age 50 than in the whole of E. and W., and afterwards becomes gradually the other way.

In the *City Districts* the *expect.* approximates very closely to that of the whole of E. and W.—being rather greater at age 22; gradually decreasing to 45; and afterwards the difference gradually decreasing.

In the Combined Districts, the *expect.* is more favourable to age 49 than in the whole of E. and W.; from that age to the end of the T. there is a very small difference.

The following T. gives the main features of the *expect.* in a succinct form:

Age.	E. and W.	Rural.	Town.	City.	Combined Districts.
20	43.41	43.00	41.41	40.08	41.35
30	36.44	35.52	34.06	32.80	33.96
40	29.29	28.27	26.79	25.76	26.75
50	22.03	21.21	19.88	19.03	19.87
60	15.05	14.76	13.41	13.21	13.60
70	9.36	9.24	8.26	8.29	8.49

In the data pub. in 1862, *Miners* and *Colliers* formed 5.76 p.c. of the number of persons included. In the present data these form 5.93 p.c. of the general class. From this it appears the increase of *Miners* and *Colliers* into the So. has kept pace with the admission of other members. Further:

In analyzing the Returns it was often noticed that in a number of Branches the rate of *mort.* appeared very favourable; and at times in analyzing a number of Returns taken quite promiscuously, the rate of *mort.* was very high. Whether this arises from the nature of the employment or locality of the members, it is very certain that the nature of the employment of members, and the density of *pop.* of the place of residence, does cause a greater or less cause of *mort.*

The following is the Mort. T. for the Combined Districts, embracing all classes of members. [For typographical convenience we print this Table (ix. of the Rep.) on p. 111.]

Sickness.—Taking into consideration (says Mr. Ratcliffe) that a period of 10 years has elapsed between the first and second data being obtained; that the same number of years has elapsed between the second and third data being called for; that during each interval a large number of members left, and a large number joined the Unity; and that from a change in the circumstances of the members arising from the nature of employment and locality, it is not at all surprising to find some change in the average sickness and rate of *mort.* experienced by members. Further:

Although every branch in the Unity may not pay the sick benefits in cases of *Insanity*, it is nearly the universal custom to do so; and same, as every other kind of sickness or incapacity to labour, is included in the average sickness experienced by members, and given in these T.

Of late years a great many Lodges have adopted rules giving reduced benefits to members when able to follow some, but not their usual employment. All these cases are included in the sickness returned, and may partially account for the increased sickness appearing, in comparison with 1846-8, and 1856-60.

We now give the new T. of sickness complete as follows:

T. [No. x. in Rep.] showing the Average Sickness p.a. to each Person, in the Rural, Town, and City Districts respectively; and in the 3 Districts combined.—RATCLIFFE, 1872.

T. [No. IX. in Rep.] showing the Mort. prevailing in the Manchester Unity of Odd Fellows during the 5 Years 1866-70. Rural, Town, and City Districts combined.—
 RATCLIFFE. [See p. 109 for introductory remarks on this T.]

Age.	Living.	Dying.	Mort. p.c.	After-life Expec.	Age.	Living.	Dying.	Mort. p.c.	After-life Expec.
18	100,000	560			60	58,440	1864	3'1902	13'60
19	99,440	578	'5600	42'87	61	56,576	1954	3'4544	13'04
20	98,862	596	'5817	42'10	62	54,622	2033	3'7203	12'48
21	98,266	614	'6034	41'35	63	52,589	2097	3'9879	11'95
22	97,652	631	'6251	40'60	64	50,492	2149	4'2572	11'42
23	97,021	647	'6464	39'85	65	48,343	2180	4'5283	10'91
24	96,374	663	'6674	39'10	66	46,154	2216	4'8010	10'40
25	95,711	678	'6880	38'36	67	43,938	2261	5'1468	9'90
26	95,033	692	'7084	37'61	68	41,677	2319	5'5655	9'42
27	94,341	705	'7283	36'89	69	39,358	2384	6'0572	8'94
28	93,636	716	'7473	36'16	70	36,974	2448	6'6209	8'49
29	92,920	727	'7653	35'43	71	34,526	2506	7'2595	8'05
30	92,193	736	'7825	34'14	72	32,020	2510	7'8409	7'64
31	91,457	744	'7987	33'96	73	29,510	2527	8'5633	7'25
32	90,713	756	'8139	33'23	74	26,983	2490	9'2299	6'87
33	89,957	773	'8340	32'54	75	24,493	2426	9'9058	6'53
34	89,184	793	'8592	31'77	76	22,067	2337	10'5912	6'20
35	88,391	817	'8893	31'04	77	19,730	2237	11'3370	5'87
36	87,574	845	'9245	30'32	78	17,493	2124	12'1432	5'56
37	86,729	871	'9646	29'60	79	15,369	1995	13'0098	5'26
38	85,858	898	1'0052	28'88	80	13,374	1864	13'9369	4'97
39	84,960	923	1'0452	28'15	81	11,510	1718	14'0244	4'69
40	84,037	947	1'0859	27'46	82	9,792	1566	15'9906	4'43
41	83,090	971	1'1266	26'75	83	8,226	1409	17'1356	4'18
42	82,119	994	1'1675	26'05	84	6,817	1257	18'4394	3'94
43	81,125	1018	1'2104	25'30	85	5,560	1093	19'6620	3'72
44	80,107	1043	1'2554	24'66	86	4,467	940	21'0433	3'51
45	79,064	1068	1'3024	23'97	87	3,527	792	22'4592	3'31
46	77,996	1094	1'3515	23'28	88	2,735	654	23'9102	3'12
47	76,902	1125	1'4026	22'59	89	2,081	528	25'3958	2'95
48	75,777	1163	1'4638	21'91	90	1,553	418	26'9161	2'78
49	74,614	1206	1'5351	21'22	91	1,135	323	28'4711	2'63
50	73,408	1254	1'6165	20'50	92	812	244	30'0780	2'48
51	72,154	1305	1'8093	19'21	93	568	180	31'7368	2'33
52	70,849	1358	1'9165	18'55	94	388	130	33'4476	2'18
53	69,491	1410	2'0292	17'91	95	258	91	35'2103	2'03
54	68,081	1462	2'1478	17'27	96	167	62	37'0249	1'87
55	66,619	1513	2'2720	16'64	97	105	41	38'8893	1'68
56	65,106	1564	2'4018	16'01	98	64	26	40'8019	1'43
57	63,543	1626	2'5586	15'39	99	38	16	42'5363	1'07
58	61,916	1698	2'7422	14'78	100	22	22	44'7731	...
59	60,218	1778	2'9528	14'19					

Rural Districts.—In the early ages of this T. the average sickness in these Districts is greater at every quinquennial period of life up to age 55, than appeared in the Returns 1846-8; after that period, with the exception of the period 75, the sickness is more favourable than experienced by the members of the Unity in these years. In 1860 the average sickness in these districts was greater at the periods of life 20 to 25 than appears from the data now before us; but at every other quinquennial period the average sickness is higher than that in the T. of 1860. The accompanying abstract T. gives the average sickness at the 3 periods brought under obs. by Mr. Ratcliffe in his several Reps.:

Age.	RURAL.			Age.	RURAL.		
	1848	1860	1870		1848	1860	1870
20	'6012	'8386	'6850	55	2'3836	2'3177	2'7603
25	'7326	'8458	'7990	60	4'2157	3'1715	3'8088
30	'7785	'8760	'8964	65	6'6507	5'0110	5'5696
35	'8494	'9577	1'0068	70	9'7585	8'9933	9'2871
40	'9730	1'0653	1'1618	75	10'2439	11'2837	15'1041
45	1'2383	1'2640	1'5225	80	21'6552	13'4560	20'5265
50	1'7038	1'7063	2'0773				

Town Districts.—In these Districts in 1846-8, the average sickness at each period up to and including the age of 50 was less than in 1866-70: the greatest difference being at

the early periods. The average sickness at the two periods, age 20 and 25, had been more favourable than in 1856-60. At the next 3 periods, 30, 35 and 40, the average sickness had been greater than in either of the previous periods; at 55 and other advanced ages, it approximated very closely to that of 1856-60, notwithstanding the lesser number of lives coming under obs. at the late periods. These facts are made more clear in the following abstract :

Age.	TOWN.			Age.	TOWN.		
	1848	1860	1870		1848	1860	1870
20	·5703	·8538	·7229	55	2·5641	2·5606	2·5370
25	·7291	·8190	·7944	60	3·9371	3·8879	3·8991
30	·8166	·8366	·8755	65	5·1766	6·3344	6·1193
35	·9412	·9496	1·0220	70	7·7490	10·0749	9·8323
40	1·0644	1·1218	1·1666	75	14·1961	15·7740	14·8341
45	1·3099	1·4655	1·4372	80	17·0886	20·0408	20·4919
50	1·7490	1·8023	1·8675				

Combined Districts.—When the three Districts are combined, it is seen that in the first 3 periods, ages 20, 25, and 30, the average sickness is least from the data of 1846-8. At the period of 60 years of age the average sickness is more favourable than it had been in 1846-8; but at the remaining periods the average sickness had been greater than in 1846-8. If compared with the average sickness experienced in the period 1856-60, the sickness has been more favourable at the ages 20, 25, and 60; but at all the other ages the average sickness had been greater than that given in the T. 1856-60. These points of comparison may be enlarged upon by the aid of the accompanying abstract :

RURAL, TOWN, AND CITY, COMBINED.							
Age.	1848	1860	1870	Age.	1848	1860	1870
20	·5849	·8260	·7022	55	2·7111	2·6189	2·7288
25	·7288	·8198	·7803	60	4·3985	4·4040	4·0332
30	·8034	·8367	·8668	65	6·2299	6·2018	6·3010
35	·9077	·9467	1·0115	70	9·5744	9·8772	10·0824
40	1·0779	1·1478	1·1745	75	14·7418	14·9088	15·0735
45	1·3864	1·4110	1·4893	80	19·9111	19·0907	20·7179
50	1·8533	1·8461	1·9887				

City Districts.—In these Districts the average sickness was found to be greater at the first 4 quinquennial periods than appeared from the data of 1846-8. At all the other periods—age 80 excepted—the sickness had been more favourable than in 1846-8. When compared with the average sickness of 1860, the results are found to be more favourable at the two first periods of 20 and 25; but at every other period there is shown a greater average sickness than appeared in 1860. Full details are shown in the following comparative abstract :

Age.	CITY.			Age.	CITY.		
	1848	1860	1870		1848	1860	1870
20	·5181	·8152	·6792	55	3·2590	2·9597	3·0435
25	·7155	·7991	·7504	60	5·3237	3·8582	4·4212
30	·8298	·8059	·8677	65	7·5933	5·9679	7·1183
35	·9566	·9275	1·0028	70	12·2106	9·6034	11·0587
40	1·2379	1·1602	1·1870	75	17·6991	14·1611	15·6943
45	1·6800	1·3324	1·5422	80	20·1946	20·6796	21·4777
50	2·1967	1·8053	2·1038				

During the period 1866-70 the rate of *secession* and *expulsion* was 2·918 p.c., showing a small increase over the period 1856-60, when they had been 2·67 p.c. It had been expected that they would be less (see p. 119).

The following more general summary in the words of Mr. Ratcliffe will be useful for permanent record :

It must be clearly and distinctly understood that, from these obs., *the members of the Unity included in these Returns have experienced this average sickness.* . . .

If the aggregate sickness experienced in the *Rural Districts* be taken for a period of years—from age 20 to 60: in the data of 1846-8 it will be found 52·2491 weeks = 52 weeks 1 day and 16 hours; in 1856-60 the aggregate sickness for the same period of years was 53·6830 = 53 weeks 4 days and

19 hours; and in 1866-70 the aggregate sickness is 60'2589 weeks=60 weeks 1 day and 19 hours—this great increase taking place between 40 and 60 years of age.

Including the whole period from 20 to 60 years of age, in the *Town Districts* the aggregate sickness in 1846-8 was 54'9139 weeks=54 weeks 6 days and 8 hours; in 1856-60 the aggregate sickness during the same number of years was 57'6996 weeks=57 weeks 4 days and 21 hours; and the aggregate sickness in the T. of 1866-70 is 57'7412 weeks=57 weeks 5 days and 4 hours—the greatest difference being 2'8273 weeks=2 weeks 5 days and 20 hours; the least aggregate sickness being in 1846-8, and the greatest in 1866-70.

During the same period of years, and in the *City Districts*, the aggregate sickness experienced during the years 1846-8 was 65'6420 weeks=65 weeks 4 days 10 hours; in 1856-60 for the same period of time the aggregate sickness was 59'1360 weeks=59 weeks and 23 hours; and in 1866-70 the aggregate sickness was 59'6621 weeks=59 weeks 4 days 15 hours—the difference being 6'5062 weeks=6 weeks 3 days and 11 hours: the greatest aggregate sickness being in 1846-8; the least in 1856-60, and the aggregate sickness between ages 20 and 60 experienced in 1866-70, being a mean of the other two periods.

When the whole of the *Districts* are combined, for the first 10 years, from ages 20 to 30 the aggregate sickness is least from the data of 1846-8; greatest in 1856-60, and the aggregate sickness experienced in 1866-70 greater than in 1846-8, and less than in 1856-60. In the next period of 10 years, from age 30 to 40, the aggregate sickness is least in 1846-8, greatest in 1866-70; and in 1856-60 a medium between the other two periods. For the period between ages 40 and 50 the least aggregate sickness is [was] experienced in 1846-8, the next greatest in the years 1856-60, and the highest aggregate sickness during the years 1866-70. And in the last period, between ages 50 and 60, the least aggregate sickness experienced was in the years 1856-60, the highest aggregate during the years 1846-8; the aggregate sickness experienced in 1866-70 being '602=10 hours less than in 1846-8, and 1'0290 weeks=1 week 4 days greater than in 1856-60.

Taking the aggregate sickness for the period of 40 years, between ages 20 and 60, the least aggregate sickness was experienced in 1846-8, being 57'0563 weeks=57 weeks and 7 hours; and the greatest aggregate sickness experienced in 1866-70 being 59'6621 weeks=59 weeks 4 days 15 hours—the difference being 2'6058 weeks=2 weeks 4 days and 8 hours. The aggregate sickness experienced during this period in 1856-60 was 57'6857 weeks=57 weeks 4 days and 9 hours.

Thus if the aggregate sickness from 20 to 60 years of age experienced by members in 1866-70 be added to the aggregate sickness experienced by members from 60 to 70 in all the *Districts*, it is seen that the aggregate sickness in 1866-70 in passing from 20 to 70 years of age in *Rural Districts* had been 116'3017 weeks=116 weeks 2 days and 2 hours; in *Town Districts* 118'3595 weeks=118 weeks 2 days and 12 hours; in *City Districts* 132'7063 weeks=132 weeks 4 days and 22 hours; and when the 3 *Districts* are combined, 122'1376 weeks=122 weeks 23 hours. Such (says Mr. Ratcliffe) is the experience of sickness in the Manchester Unity. "That it has been experienced, and will again be experienced, is certain; and if the members do not make provision for a continued increase of sickness as they increase in age, they will find that they will fail to meet their engagements; the amount already realized will become exhausted; and the member who has paid longest into the So., and who has supported others in receiving greater benefits than they have contributed for, will find no assistance in his greatest time of necessity: for the amount already received, having been insufficient, will have become exhausted."

The Rep. contains a number of useful Monetary T. based upon the preceding data; and will, on the whole, be found one of the most valuable works which an actuary engaged practically in valuing the assets and liabilities of F. Sos. can have at hand. It is, however, somewhat carelessly printed, and consequent errors must be guarded against.

In a comparison of the sickness here reported by Mr. Ratcliffe, with that reported upon by Mr. Neison in 1845 (*City, Town, and Rural Districts* combined), which might be expected to present certain points of resemblance, it is seen that: In the first period from age 20 to 30 the sickness is more favourable in the M. U. In the period from age 30 to 40 the aggregate sickness in the Unity is very slightly in excess of Mr. Neison's sickness. In both periods 40 to 50, and 50 to 60, the aggregate sickness is very nearly equal—the M. U. giving very slightly the greatest aggregate sickness. But when the period of life from age 60 to 70 is included, the average sickness experienced according to Mr. Neison is so great as to increase the aggregate sickness to 137'8187 weeks=137 weeks 5 days 17 hours; while the experience of the members of the Unity gives the aggregate sickness for this period 122'1376 weeks=122 weeks and 23 hours—difference 5 weeks 4 days and 18 hours in favour of the M. U.

1873.—Mr. Neison, jun., made a Rep. upon the Sickness Experience of the *Ancient Order of Foresters* for the year 1870, and his Rep. was included in the Rep. of the Executive Council for January this year. The following is the brief result, compared with the Experience of the *Manchester Unity*:

Average Sickness p.a. in Weeks.

Ages.	Foresters.	Odd Fellows.	Ages.	Foresters.	Odd Fellows.
18—20	'366	'662	41—45	1'310	1'316
21—25	'686	'762	46—50	1'639	1'750
26—30	'832	'817	51—55	2'158	2'347
31—35	'994	'969	56—60	2'823	3'301
36—40	1'138	1'081	61—65	4'211	5'131

Thus, though the total difference between the experience of the 2 Sos. would be nearly

10 weeks, yet from 21 to 45 it is less than $\frac{1}{3}$ of a week; and from 40 to 45 it amounts to only $\frac{1}{100}$.

Mr. Neison points out in his Rep. that the data submitted to him could not be entirely depended upon owing to several causes—such as the inclusion (almost without exception) of members initiated and seceding during the year; the omission “generally” of those who had died within the year; the entire suspension of benefit by some Courts during protracted sickness; and the omission to reckon intervening Sundays during the days of sickness; all of which would unduly tend to lower the apparent rate of sickness.

1874.—The 4th Rep. of the Royal Commission (1870) on F. Sos., pub. this year, contained the following:

28. In the year 1850 a Rep. and T. based upon the Returns of the 5 years then last past were prepared and submitted to Parl., a grant of £2000 having been made for the purpose by the Treasury. No further T. have since been computed, nor has the Regis. even complied with the directions of the Act of 1855 as to presenting an abstract of the Quinquennial Returns, a large mass of which has now accumulated in the office without being turned to any practical account. It has even been doubted by some persons *whether these returns are in a condition which would justify the expense of computing T. from them.* Though the law imposes penalties on Sos. failing to send in their Ann. Returns, it imposes none in respect of the Quinquennial. . . .

Chap. V. treats specially “On Rates of Prem. and Statistics of Sickness; and on the Rate of Mort. prevailing among the classes comprised in F. Sos.”; and therein is the following:

798. It appears then that while large masses of Returns have been thrown together, comparatively little has been done towards determining the sickness arising from the pursuit of various trades; *although there is every reason to believe that the character of the occupation is of paramount influence in determining the amount of sickness.* Mr. Finlaison has taken out the sickness of certain occupations, and the results—so far as they go—confirm the opinion above expressed.

799. With respect to the extent of data requisite for the basis of a law of sickness, it is not necessary that the obs. for this purpose should be so numerous as those involved in the construction of the T. above mentioned; a wide basis may perhaps give more regular results; but by throwing together classes which separately would be subject to widely differing rates of sickness, the investigation is of little service to Sos. estab. in localities where particular trades give occupation to a large proportion of the inhabitants.

800. In considering the requisite materials for the construction of a Sickness T., it will be evident that as about 1 person in every 4 is sick every year, a smaller number of years of life will suffice than for the construction of a Mort. T. Obs. of 20,000 years of life, that is to say, 2000 persons observed for 10 years, or 1000 observed for 20 years, between the ages of 20 and 65, may be taken as a sufficient basis for the construction of a Sickness T.; but such limited obs. would require careful examination before being made a basis of calculation, so that it might be ascertained that no unusual disturbing influence had been at work.

801. The recommendation we have to submit to the Gov. is, *that they should cause investigations to be made into the sickness experienced among different classes of Sos., and that T. should be deduced from these showing the rate of prem. to be charged at each age to provide the amount of benefit usually required by the members; and likewise such other T. as would enable the valuation of the assets and liabilities of these Sos. to be made with facility. Also the rates of sickness prevailing in important trades should be ascertained, and money T.—rates of prem. and valuation T.—should in like manner be calculated for them.* In selecting the particular Sos. or groups of Sos. which should furnish the statistical information, the number of members and accuracy of records will be the important considerations to be taken. In selecting the occupations which should be the subject of investigation, Mr. Ratcliffe might be well consulted, and the Manchester Unity could furnish the required statistics of sickness—if it should be found that the Returns furnished by the various Sos. for the above-mentioned investigation did not provide a sufficient range of facts. . . .

A form of card for collecting the required data is then suggested, and the Commissioners proceed:

802. When the statistics of the particular So. had been extracted, and the number of members of each occupation had been taken out, the cards of members pursuing the occupations which were to be the subject of special investigation could be eliminated from each So. and combined for investigation.

803. One useful result of determining the sickness of particular trades *would be the classification of those in which the sickness experienced was found to be nearly the same both as to frequency and duration. When the different rates of sickness are known, the prem. for benefits could be computed for persons of every description.*

804. *It is already the practice of a few Sos. to add a per-centage to the prem. for members following certain trades.* This plan could be much extended; and thus, in a small town, where a small number of men belonged to unhealthy trades, they could be admitted into the local So. upon paying the necessary extra prem. It is the practice of many more Sos. to exclude certain trades; but this would not be necessary as a measure of self-protection, when the extra risk attaching to unhealthy trades could be met by an extra contribution accurately determined.

The Commissioners proposed that the investigations should at least comprise the following: 3 County Sos.; 3 Large City Sos.; 3 Local Town Sos.; 6 Rural Sos., of which some should be almost exclusively composed of Agricultural Labourers; 2 Temperance Sos., and the large special Trade Sos.

Further, that such of the following *occupations* as have not exclusive Trade Sos. should form the subject of investigation, viz. Bakers, Blacksmiths and Forgemen; Bricklayers and Plasterers; Butchers; Carpenters and Joiners; Clerks and persons of Sedentary Occupations; Cordwainers; Cutlery Grinders; Domestic Servants; men engaged in Chemical Works; Mill Operatives, Cotton Spinners, and Weavers generally; Millers and Colliers; Plumbers and Painters; Ostlers; Shipwrights; Stonemasons; Tailors. “Each comprises a considerable number of men, and sub-divisions would prob. follow the inquiry; other Trades could doubtless be added to the list of those requiring special investigation.” The Commissioners add:

807. If the Gov. Depart. superintending F. Sos. were thus furnished with the actual experience of

a number of well-known Sos., conducting their business in different Counties, Cities, Towns and Villages; and if the condition of the members composing each was stated, the number pursuing each occupation, the average amount of benefit for which the members contributed, it would be easy for the Depart. to present the information in such a form as would enable persons starting Sos., or boards of management conducting existing Sos., to see which of the investigated Sos. were similarly circumstanced to their own. In add. to furnishing T. of prems., the Depart. might arrange for the valuation of Sos. at a very small cost; and Sos., would have the opportunity at short intervals of adjusting the contributions of sick allowances when a surplus or deficiency of funds was discovered. . . .

The final recommendations of the Commissioners on these and other points have been already reviewed in our historical art. on F. Sos. under date 1874.

1875.—Under sec. 10 of F. Sos. Act of this year (38 & 39 Vict. c. 60) the “central” office of the Registrar of F. Sos. is (subject to the approval of the Treasury) to “cause to be constructed and pub. T. for the payment of sums of money on death, in sickness, or old age, or on any other contingency forming the object of an assu. authorized under this Act, which may appear to be calculable: provided nevertheless that the adoption of such T. by any So. shall be optional.”

Mr. Thos. Marr, of Glasgow (now Man. of *Scottish Amicable*), investigated the experience of the *Commercial Travellers’ So. of Scotland*, and found the sickness experience which had prevailed in that So. [over what period not stated] to be: It was seen to agree at the accompanying ages very closely with Neison and with Ratcliffe. He recommended the So. to adopt Neison’s Sickness T. with some slight modification, but not his Mort. T., which he regarded as presenting “too favourable a view of the duration of life.”

In the *Sanitary Review* for 1 Dec. this year there was an account of the sickness experience of the Order of *Rechabites*, said then to number 30,000 members “all pledged abstainers from intoxicating drinks”; but in the districts to which the returns here under observation relate there were included “only 16,269 members: of these 2630 were sick during the preceding year—the aggregate weeks of illness amounting to 14,403; the per-centages of sick being 16·16; and the number of days’ illness p. member 6·14. The number of deaths was 120—the death-rate thus being 7·4 p. 1000. It was admitted by the writer that one year was too short a period upon which to rely—there might be disturbing causes. For 1866 a Rep. had been drawn up showing for the English districts presenting complete returns a mort. of 9·07 p. 1000, and of sick members a fraction over 19 p. 1000. The Rep. for 1868 contained many English and some of the Foreign Districts. The mort. there shown was 10·75 p. 1000, and the sickness averaged 9·3 days. The number of members constantly sick was stated to have been this year as high as 25·5 p. 1000.

There was pub. this year a pamph. *On the Numerical Ratio of Disease in the Adult Male Community, deduced from the Sanitary Statistics of Her Majesty’s Customs, for the Years 1857-74.* By Walter Dickson, M.D., R.N., Medical Inspector of H.M.’s Customs. There are some valuable details contained herein, but these will be best reviewed under our general art. SICKNESS.

1877.—There died this year, at the age of 68, Mr. Henry Ratcliffe, whose name has occurred prominently in this art. in connexion with reports and investigations into the mort. and sickness of the *Manchester Unity*. At the time of his death he was understood to have been engaged in making a further investigation regarding this Order, as at 1 Jan. 1876. It is reported that he had been engaged in making investigations of the experience of the M.U. in each of the counties of Eng.; and that he had completed his labours as far as *Staffordshire*. If this be so, we trust the results may yet appear, for the benefit of F. Sos. in general. [RATCLIFFE, HENRY.]

[ENDOWMENTS.] [FAMILY INS.] [F. SOS., VALUATIONS.] [GOV. INS.] [HEALTH INS.] [INDUSTRIAL INS.] [LOCALITY.] [MORTALITY.] [OCCUPATIONS.]

FRIENDLY SOS., LAW AND PRACTICE OF.—The tendency of modern legis. with respect to F. Sos. has undoubtedly been to simplify their working as far as possible, and to prevent the occurrence of “moot points” which may lead to misunderstanding, and consequent litigation. On the other hand, the continuous efforts of legis. on behalf of these Sos. has in itself given rise to questions of doubt—the rules of the various Sos. being of course drawn in conformity with the law prevailing at the date of their estab. respectively. Hence it happens that recourse to the Courts of Law on points of practice must sometimes be had. The various points which have been so determined we propose briefly to review here.

In the following alphabetical summary “the Act” refers to the F. Sos. Act, 1875 (38 & 39 Vict. c. 60); and the amending Act of 1876 (39 & 40 Vict. c. 32); and “the Schedule” means the Schedule to the Act of 1875. The sections referred to are those of the Act of 1875. The smaller figures indicate the sub-sections. The other authorities are specifically named.

Accounts.—1. The Act provides that the Chief Regis. may prepare model forms of accounts, s. 10 (5). In the mean time officers of Sos. are to render such accounts as may be required by the rules of the So., s. 20 (2).

Ages.	Sickness in Weeks.
21 to 30	5·5
31 „ 40	10·2
41 „ 50	16·8
51 „ 60	27·4
Total	59·9

2. The accounts of Collecting Sos. require certificate of public accountant, s. 30 (9).
 3. In the case of all new Sos. the rules must provide for keeping separate accounts of money paid for each benefit, where a separate T. of contributions is adopted for the several benefits, Sched. II. 9.—See *Annual Returns*; *Model Forms*.

Accumulation.—By s. 19 the rules may provide for accumulating the “surplus contributions to the funds of the So.”; and for the repayment of the same to members. *Deposit Sos.*; *Dividing Sos.*

Acknowledgment of Registry.—1. This to be conclusive evidence of the registry of a So., s. 11 (10).

2. The same as to amendments of rules, s. 13 (4).

3. Forms of (Sched. IV.).

4. It was decided in *Hughes v. Layton* (Q.B. 1864) that the certificate remains in force even where the objects of the So. shall have been (lawfully) changed.

Action.—1. Legal proceedings by or against regis. So. must be in name of trustees or officers, s. 21 (1).

2. An action does not abate by reason of death, resignation, or removal of So.’s officers, s. 21 (3).

3. Punishment for fraud or misappropriation of the property of the So. is especially provided under s. 16 (9).

4. It appears by the case of *Sinden v. Bankes* (Q.B. 1861) that the common law remedy remains, notwithstanding any special remedies specified in Act, or in rules.—See *Arbitration*.

Actuary, Certificate of.—F. Sos. granting annuities require to have their rules certified by an actuary, s. 11 (5). [*Annuities*.]

Administration.—Stamp duty is not payable on letters of administration in case of the members of F. Sos. whose personal effects do not exceed £50, s. 15 (2). [*Distribution*.] [*Probate*.]

Admission of Members.—The rules must prescribe terms of, s. 13 (1).

Agents.—Appointments and revocations of agents are exempt from stamp duty, s. 15 (2). [*Officers*.]

Alteration of Rules.—See *Amendment of Rules*—this being the designation bestowed by the Act of 1875.

Amalgamation.—1. Any two or more Sos. may by “Special Resolution” of both or all of such Sos. become amalgamated together as one So., with or without any dissolution or division of the funds of such So., or either of them; and any So. may by special resolution trans. its engagements to any other regis. So., which may undertake to fulfil them, s. 24 (2).

2. This is a new power conferred by the Act of 1875. [*Dissolution*.] [*Special Resolution*.] [*Voting*.]

3. No amalg. or trans. of engagements will prejudice the right of any creditor of either or any So. party thereto.

4. A F. So. may become converted into a Co. under the Cos. Acts; or may be amalg. with a Co. [*Company*.] [*Memorandum of Asso.*]

Amendment of Rules.—1. Under the Act of 1875 provisions for amendment of rules must be contained in the orig. rules of all Sos. regis. under it.

2. No amendment of rules by a regis. So. shall be valid until regis. under the Act; for which purpose copies of the same signed by 3 members and the sec. shall be sent to the Registrar, s. 13 (2). There is a right of appeal against refusal of Registrar to regis. amendments, s. 13 (3).

3. Various legal points, sometimes of considerable complexity, have arisen as to the alteration of the rules of Sos. enrolled under previous Acts. Some of these will still remain guides as to future practice—see especially *Batley v. Townrow* (1814), 4 Camp. 5; *Reg. v. Godolphin* (1838), 8 A. & E. 338; *Reg. v. Cotton* (1850), 19 L. J. (N.S.) Mag. Cases; *In re Meredith*, 1 C. B. (N.S.) 216; and *Dewhurst and others v. Clarkson* (1854), 3 El. & B. 194.

4. The following case, which was laid before the then Attorney-Gen. (Sir Roundell Palmer, now Lord Selborne) in 1864, by the then Regis. of F. Sos., meets a condition of things which has often arisen, and must still frequently arise:

Case.—A So. was estab. in 1830, under the F. Sos. Acts, for the purpose of insuring to each member, paying a certain monthly contribution, a fixed weekly sum in sickness, a fixed weekly allowance after 60, and a certain sum at death.

By the Acts in force at the time of the estab. of the So. alterations in the rules might be made, and when certified were to be binding on the several members and officers of the So. See 10 Geo. IV. c. 56, sec. 9.

By the present F. Sos. Act, 18 & 19 Vict. c. 63, sec. 27, the rules may be altered by a resolution of a meeting specially called for that purpose.

Under the 10 Geo. IV. c. 36, sec. 9, the votes of three-fourths of the members present at a general meeting were required to carry any alteration; but under the 18 & 19 Vict. c. 63, sec. 27, a simple majority of the votes of the members present is sufficient.

In consequence of the funds of the So. being much reduced, it is intended to frame new rules, which it is proposed to have certified, either increasing the contributions payable by the members, or reducing the benefits in sickness, old age, and at death; and these new rules are to apply to all the present as well as the future members.

It is contended on the one hand, that as the present members joined with a knowledge that the rules might be altered, they have no reason to complain of the new rules; whilst, on the other hand, it is contended that these new rules cannot affect the present members, as that would be a breach of the contract made with the members when they entered the So.; and that although the rules may be altered, there is no provision in the Act as to altering the T.; but on this point it is presumed that as the T. are referred to in the rules, they are incorporated with them, and might be repealed.

The Attorney-General is requested to advise whether the altered rules will be binding upon the members admitted into the So. before such rules were certified.

Opinion.—I am of opinion that the altered rules will be binding upon the members admitted into the So. before the new rules were certified, except as to any relief, annuity, or other benefit from the funds of the So., of which any member (or the wife, nominee, or child of any member) may be then in the actual receipt, or entitled to the actual receipt, under the existing rules. With regard to all future prospective and contingent benefits, the rights to which may not, at the time of making the new rules, have become vested and absolute by reason of any event then already past, the new rules will, I think, be binding upon all the members.

In order to make the new rules valid, they must be made in a manner conformable to the provisions of 10 Geo. IV. cap. 50, sec. 9, and by the majority of three-fourths there required.

Annual Returns.—1. A general statement (to be called "Annual Return") of the receipts and expenditure, funds and effects of the So., as audited, together with copy of auditor's report, is to be sent annually to the Registrar.

2. The accounts to be made up to the 31st Dec. preceding. The requirements on this point are minute, s. 14 (1, d).

3. A copy of Annual Return to be supplied gratuitously to every member or person interested, s. 14 (1, h).

4. By the Act of 1876, s. 9 declares that it shall be a sufficient compliance with s. 14 (1, h) of the principal Act if the So. supplies gratuitously every member or person interested with a bal.-sheet or other document duly audited, containing the same particulars as to the receipts and expenditure, funds and effects of the So., as are contained in the Ann. Return. [*Accounts.*] [*Audit.*] [*Quinquennial Returns.*]

Annuities.—1. Tables of the Sos. granting annu. are to be certified by an actuary, s. 11 (5).

2. The limit of an annu. which may be granted under this Act is £50; nor can a member of more than one So. lawfully secure any greater amount, s. 27. [*Amendment of Rules.*]

Appeal.—The rights of appeal under the Act are—

1. From refusal to register rules, s. 11 (8). [*Registry of F. Sos.*]
2. From refusal to regis. amendment of rules, s. 13 (2). [*Amendment of Rules.*]
3. From cancellation of registry, s. 12 (1) (2) (3). [*Cancellation of Registry.*]
4. On summary conviction, s. 33. [*Summary Procedure.*]

Application for Registry.—See *Registry of F. Sos.*

Arbitration.—1. Where rules so direct, disputes may be settled by arbitration; and decision of arbitrators may be enforced in County Court, s. 22.

2. In *Crisp v. Bunbury* (C. P. 1832) it was held that since 9 Geo. IV. c. 98, an action does not lie against the trustees of a Benefit So. In case of dispute, the only mode of proceeding is by arbitration.

3. In *Timms against Williams* (Q.B. 1842) it was held that the treasurer of a Benefit So. could not bring an action upon a promissory note, but must proceed before a Justice under stat. 5 & 6 Wm. IV. c. 28, s. 8. But see later case of *Sinden v. Bankes*, under *Action*. [*Disputes.*]

4. Upon a reference before arbitrators they may decline to hear counsel—*In re Macqueen*, 9 C.B. (N.S.) 793.

5. In *Kelsall v. Tyler and others* (Exch. 1856) the facts were as follow. One of the rules of the U.K. *Temperance and Gen. Prov.*, enrolled under F. Sos. Acts, provided that every matter in dispute between the inst., or any person acting under or on behalf of the inst., and any member thereof, or person claiming on account of any such member, should be referred to and decided by arbitrators appointed in pursuance of sec. 27 of 10 Geo. IV. c. 56 (1829)—which required that the rules of every enrolled F. So. should specify whether a reference of every matter in dispute between any such So., or any person acting under them, and any individual member thereof, or person claiming on account of any member, should be made to Justices of the Peace, or to arbitrators appointed or therein directed:—*Held*, that neither the rule nor the stat. applied to the case of a claim by the administrator of a member for the amount of the pol. of ins. on the life of such member; and consequently that those provisions were no answer to an administrator on the pol.

It thus appeared that ordinary life pol. by which the sum insured is payable to the exors. or admors. of the insured (although granted by asso. enrolled under former F. Sos. Acts) are not within the purview of the F. Sos. Acts—25 L.J. N.S., Exch. 153.

Arrears of Contribution.—See *Recovery of Contributions*. [*Contributions.*]

Assignment of F. Sos. Policies.—1. It is held by nearly all authorities that a pol. issued by a So. enrolled under the F. Sos. Acts is in the nature of a personal contract, which is not capable of being legally assigned.

2. The Policies of Assu. Act, 1867 (30 & 31 Vict. c. 144), under which assignees of life pol. were empowered to sue in their own names, especially exempted "engagements for payment on death by any F. So." from its operations.

3. Some doubts have been raised as to whether the word "assigns" in section 37

of 18 & 19 Vict. c. 63 (1855); and the like word in s. 6 of 21 & 22 Vict. c. 101 (1858), do or did not sanction such assignments. We do not find any decided case upon the point. [*Nominee Pol.*]

Audit.—1. By s. 14 (c) the accounts of all Sos. regis. under this Act are to be submitted for audit every year, either to one of the public auditors appointed under the Act, or by two or more persons appointed under the rules of the So. And all books and accounts to be produced.—See *Annual Returns*.

2. By s. 30 (g) the Annual Returns of *Collecting Sos.* are to be certified by an auditor who is not otherwise an officer of the So.—See *Accounts*.

3. By s. 35 the Treasury may appoint public auditors.—See *Public Auditors*. [*Investigation of Affairs*.] [*Priority of Claim*.]

Bankruptcy.—In case of bankruptcy or insolvency of any officer of the So. (including its trustees), the So. to have priority of claim in respect of any money or property of the So. in his possession at such time. This also extends to liquidation of affairs by arrangement; and to the death of officers, s. 15 (7). [*Priority of Claim*.]

Benevolent Sos.—These may be regis. under the Act, s. 8 (3). They cannot divide funds, s. 11 (4), nominate, s. 15 (3), or hold more than an acre of land, s. 16. [*Land*.]

Birth.—1. Sos. regis. under this Act may insure money payable on the birth of a member's child, s. 8 (1).

2. Sos. may therefore be estab. specially for insuring sums of money or other benefits on birth of children.—See general title BIRTH INS.

Bonds from Officers.—1. Any bonds given by officers of Sos. under former Acts hold good, s. 5. Any bond given under present Act is free of stamp duty, s. 15 (2, c).

2. The security of a [Fidelity] Guarantee So. may be taken, s. 20 (1).

3. Where rules of So. require, officer to give security before entering upon the duties of his office, s. 20 (1). And may be sued upon same by trustees of the So. for the time being, s. 20 (2). [*Legal Proceedings*.]

4. For forms of bonds see Sched. III. [*Model Forms*.]

Books.—See *Inspection of Books*. [*Property*.]

Branches.—1. For definition of, see ss. 4 and 29. They are brought much more under control of central body than previously.

2. A So. having branches, but desiring to be regis. as a single body, must accompany the application for registry with lists of its branches, and copies of their rules where they differ; and notice of every new branch estab. must be given, s. 29.

3. As to property of branches, and their own trustees, see s. 16 (2).

4. For application under special power of Registrar, see s. 24.

5. The consent of the central body of So. is necessary before dissolution, s. 24.

6. As to Sos. carrying on business in more than one country, see s. 11 (6).

7. Sos. which have carried on bus. independently may become branches of Sos. regis. under Act of 1875, *vide* s. 3 of Act of 1876. [*Central Body*.] [*Inspectors*.]

Buildings.—These may be erected for the purposes of offices, and otherwise, s. 16 (1, d). And advances may be made upon buildings where authorized by the rules, s. 16 (1, e). See also s. 16 (2)—and *Land*. [*Property*.]

Burial.—Sos. regis. under this Act may insure sums of money to be applied for burial of the member, or of the member's wife, or children.—See *Certificate of Death*; *Collecting Sos.*; *Funeral Expenses*; *Limitation of Sums Insured*.

Burial Sos.—These may be formed or regis. under the Act.—See *Burial*; *Collecting Sos.*

Cancelment of Registry.—1. The registration of a So. may be cancelled or suspended in case of fraud, mistake, etc.; but two months' previous notice must be given, s. 12 (1) (2) (3).

2. There is a right of appeal, s. 12 (4).

3. Effect of cancelment is the withdrawal (or suspension) of all privileges under the Act, s. 12 (5). The So. may still exist as a non-regis. So. [*Suspension*.]

4. Where the regis. is cancelled only in view of making a So. into a branch So., no notice in advance is required—Act of 1876, s. 3 (3). [*Registry*.] [*Suspension of Registry*.]

Cattle Ins.—1. Sos. for the mut. ins. against loss by death of neat Cattle, Sheep, Lambs, Swine, and Horses, from disease or otherwise, may be formed under this Act, s. 8 (2).

2. There is no *limitation of the amount* which may be insured by the Act.

3. The rules of such Sos. are to have the effect of a deed of covenant between the respective members of such a So., who may be sued in the County Court for their contributions, s. 31 (1) (2).

Central Body.—This term is applied in the case of F. Sos. having branches. The "Central Body" now have a larger control than formerly.—See *Branches*; *Dissolution*.

Central Office.—This is the London Office of the Registry of F. Sos. There are branch offices in Edinburgh and Dublin, with Assist. Registrars, s. 10. [*Chief Registrar*.]

Certificate of Birth.—The fee for any certificate of birth required by any member insured, or to be insured, for the purposes of the Act of 1875, shall not exceed 1s., s. 15 (9). [*Children*.]

Certificate of Death.—1. No So. is to pay any sum on the death of a child under 10 without a certificate of death, issued by the Registrar of Deaths, s. 28 (2).

2. Such certificates are to be specially indorsed with the name of the So. to which they are to be produced; and where more than one certificate is required, all issued are to be numbered consecutively, 1, 2, 3, 4, etc., s. 28 (3). The charge for each certificate not to exceed 6d., *vide* Act of 1876, sec. 8.

3. No such certificate to be issued at all *unless the cause of death* has been entered upon the register, or the certificate of a coroner; or of a "registered medical practitioner, who attended such child during its last illness"; or of the probable cause of death upon satisfactory evidence, s. 28 (3).

4. Sos. paying money upon any certificate which does not appear to be the first issued in respect of the same death are bound to inquire whether any and what sums have been paid in respect of the same death by other Sos. Penalties, s. 28 (5).

5. These clauses apply to *Industrial Assu. Cos.* also, s. 28 (8).

6. The case of larger sums insured under the authority of previous Acts is not provided for, and difficulties have arisen. A judicial decision will be necessary.

[*Children.*] [*Insurable Interest.*] [*Limitation of Sums Insured.*]

Change of Name.—See *Name*.

Channel Islands.—Special provisions are contained for applying the Act to Sos. in the Channel Islands, as also to the *Isle of Man*, ss. 40 and 41.

Chief Registrar.—1. s. 10 (1) requires that there shall be a Chief Registrar and Assistant Registrars for carrying out the purposes of the Act. The Chief Registrar is located at the Central Office in London; and is appointed by and holds his office during the pleasure of the Lords of the Treasury.

2. As to qualification and powers, see s. 10. [*Registry.*]

3. He is to lay an Annual Rep. before Parl., s. 10 (6).

Children.—1. No child under 3 years of age can be insured in any So. registered under this Act, s. 15 (8, a).

2. The limitations of amounts to be insured on the death of children are as follows: on children under 5 years of age, not exceeding £6; and on children under 10 years, not exceeding £10, s. 28 (1). [*Certificate of Birth.*]

3. No sum is to be paid on the death of any child under 10 except to the parent, or personal representative of the parent; and only upon production of a certificate containing certain particulars required by the Act, s. 28 (2). [*Certificate of Death.*] [*Minors.*]

Claims.—See *Actions*; *Arbitration*; *Certificate of Birth*; *Certificate of Death*; *Children*; *Limitation of Sums Insured*; *Priority of Claim*.

Collecting Sos.—1. The Act contains various special regulations as to these, of which the chief are the following. They apply to all Sos. receiving contributions by means of collectors, *at a greater distance than 10 miles from their registered offices*.

i. To furnish every member or family with a copy of its rules, and a printed pol., for a small fixed charge.

ii. The So. cannot enforce forfeiture of a pol. or benefit without written or printed notice given at least 14 days before forfeiture.

iii. A member cannot be transferred to another So. or Co. without his written consent; and the So. remains liable to the member if it attempts to transfer without such written consent.

iv. It cannot accept a transfer, even by consent of the member, without notice to the So. from whom the transfer is sought to be made.

v. At least one general meeting of the members must be held every year. Notice of such meeting is to be given by advertisements, or by letter or post-card sent prepaid to every member.

vi. A copy of the balance-sheet must be open for inspection for 7 days preceding the meeting. A So. must deliver, or send prepaid, a copy to any member on demand.

vii. No collector is to be a member of the committee of management, or to vote at meetings.

2. These provisions must be embodied in the rules of all new Sos. of this class seeking registration; and also apply to all the Sos. existing at the commencement of the Act, s. 30.

Collector.—This designation includes every paid officer, agent, or person, however remunerated, who by himself or any deputy or substitute, collects contributions for a F. So., or holds any interest in a collecting book of the same. But it does not include various other officers specified, s. 4.

Committee of Management.—1. The rules must provide for the appointment and removal of a committee of management, Sched. II. (4).

2. Collector of F. So. cannot be on committee. [*Collector.*]

3. As to *Position* of, it may be said generally that they stand in the relation of trustees to the other members.

4. As to *Duties* of, they are to carry out all the lawful purposes of the So., as directed by the rules, and in conformity with the law.

5. As to the *Powers* of, it may be said generally they must keep within the powers con-

ferred by the rules.—See *Alexander v. Worman*, 30 L. J. Exch. 198; *Penhivil v. O'Connell*, 19 L. J. Exch. 305; *Grimes v. Harrison*, 28 L. J. Chanc. 823; *Blue v. West Kilbride Free Gardeners So.*, 4 Macph. 1042.

6. Must exercise discretion in a reasonable manner.—See *Matterson v. Elderfield*, 20 L. T. Rep. N.S. 503.

7. Notice of meetings and minutes of proceedings.—See *Roberts v. Price*, 16 L. J. C.P. 169; *Moore v. Hammond*, 6 B. & C. 456; 9 D. & R. 482; *Lindley on Partnership*, 3rd ed. p. 256. *Priestly v. Hopwood*, 10 L. T. Rep. N.S. 646.

Commencement of Act.—The Act came into operation as to secs. 10, 37 and 38—which relate to the constitution, practice, and fees of the new Registry Office—on 11th Aug. 1875; and as to the remainder of the Act on the 1st Jan. 1876. [*Deposited Rules.*]

Company.—A So. may by special resolution convert itself into a Co. to be regulated by the Cos. Acts of 1862 and 1867 [and 1877], s. 24 (4). [*Special Resolution.*]
[We believe this power has not yet been adopted to considerable extent.]

Conduct of Meeting.—See *General Meeting.*

Constitution (Legal).—F. Sos. may be constituted in either of the following forms:

1. As Local Sos., without branches.

2. As District, County, or General Sos., with branches, s. 29.

3. As Sos. having collectors, s. 30. [*Collecting Sos.*]

4. As Sos. having a custom of Periodical Division of Funds, s. 11 (4). [*Dividing Sos.*]

5. As Sos. having Deposit Funds, s. 19. [*Deposit Sos.*]

Contributions.—1. The theory of F. Sos. is that the contributions are voluntary, see s. 8 (1). [*Recovery of Contributions.*] Except in Cattle Ins. Sos., see *Cattle Ins.*

2. Separate accounts of contributions for each separate benefit are to be kept. [*Accounts.*]

3. Receipt for contributions is free from stamp duty, s. 15 (2).

4. Surplus of contributions may be accumulated for members' use. [*Accumulation.*]

Copyholds.—The Lord of the Manor in which is situated copyhold property to which the So. is entitled, must admit its trustees as tenants on payment of a single fine, s. 16 (6). [*Mortgage.*] [*Registration of Receipt.*]

Corresponding Acts.—1. The 39 Geo. III. c. 79 (1799); and 57 Geo. III. c. 19 (1817), are known under this designation, and their purpose was the suppression of treasonable and seditious practices, and the holding of secret meetings, and assemblies where such practices might prevail. Some of the F. Sos. known as the "Secret Orders" (as the Odd Fellows, etc.) were regarded as falling within the provisions of these Acts, and therefore *could not* be registered.

2. By s. 15 (1) of the Act of 1875 all such Sos. may now be registered on complying with certain formalities.

Counties.—The different "Ridings" of Yorkshire, the Channel Islands, and the Isle of Man, respectively, are deemed to be counties, s. 4.

Country.—1. Means England, Scotland, or Ireland, as the case may be, s. 4.

2. As to Sos. doing bus. in more than one, see s. 11 (6).

County Courts.—The jurisdiction of these Courts in connexion with F. Sos. is very varied and extended. They may be classed under the following heads:

i. Definition of, s. 4. Sheriff's Court in Scotland to have same jurisdiction as, ss. 4, 33 (4). In Isle of Man, s. 40 (1). In Jersey, s. 41 (1). In Guernsey, s. 41 (2).

ii. May enforce bond given by officer, s. 20 (2). May decide disputes arising by dissolution of So., s. 25 (7). May settle disputes by consent, or where no decision has been otherwise arrived at, s. 22. Enforce decision of questions in dispute, s. 22. Enforce award on dissolution, s. 25 (8). Settle disputes in a Collecting So., s. 30 (10). Enforce payment of contributions to Cattle Assu. Sos., s. 31 (2).

iii. Proceedings taken under this Act may from time to time be regulated by the Lord Chancellor, s. 34. [*Summary Jurisdiction.*]

Deposits with F. Sos.—1. The Act of 1875 appears to sanction Sos. of this class under s. 19.—See *Accumulation*; *Dividing Sos.* [As to plan of these Sos. see our historical art. F. Sos. under date 1831 and 1874.]

2. Under s. 18 (2, d.) F. Sos. may receive deposits from their members, where authorized to do so by their rules, with limitations.

3. The case of *Richardson v. Williamson* and another, before the Courts (on appeal) in 1871, was an action by a depositor to recover her money, and she was met by the plea that the directors were not liable for the repayment. The money was deposited in 1867, on a note signed by two of the directors, "stating that Mrs. Elizabeth Richardson had deposited the sum of £70 with the *Imperial Permanent Benefit So.*, for three months, on interest at 5 p.c. Memorandum.—This sum may be withdrawn at any time after three months." The depositor sought to recover the money, and was told that the directors who received it were not liable, because they only received for the So.; and it appeared that the So. were not liable, either in law or equity, because they were not empowered to borrow money, and the deposits were, in law, money lent. It appeared that the So. had some funds, but it was stated they were not in a condition to pay the money in full, though they would pay some instalments. The lady wanted her money,

and brought this action against the directors who signed the note, and they set up that they were not personally liable. The point was at first reserved, but now argued.

The Court were quite clear that the defendants were liable. The Lord Chief Justice said this was one of those cases in which directors took upon themselves to borrow money without seeing whether they had authority to do so. Who was to be the loser in such a case? Surely, not the lenders of the money, but the actual borrowers, the directors who represented that they had authority to borrow it on the part of the Co. It was not necessary to suppose that they had acted dishonestly, but they had borrowed the money on the representation that they had authority from the So. to borrow it. They, therefore, were liable to repay it. The other Judges concurred.—Judgment for the plaintiff.

Deposited Rules.—Sos. with deposited rules (under 18 & 19 Vict. c. 63 (1855), s. 44) to be protected until enrolled under this Act, or until 31 Dec. 1878, “whichever shall first happen,” s. 7.

Disputes.—1. These are to be decided in the manner the rules of the So. direct; but the parties may, by consent, refer a dispute to the Chief (or in *Scotland or Ireland* to the Assistant) Registrar, who may administer oaths, call witnesses, and require the production of documents, s. 22.

2. Disputes in *uncertified* Sos. are until 1878 to be decided as if So. were certified, provided their rules were deposited before 1876, s. 7.

3. As to disputes arising through member enrolled in the Volunteer Service, see s. 26.

4. Various questions have arisen as to what is to be regarded as a “dispute.”

5. The claim of a So. upon its treasurer for misappropriating, and keeping in his hands the moneys of the So., is not a dispute within the meaning of the F. Sos. Acts.—See *Sinden v. Bankes*, 3 E. & E. 623; 30 L.J. (Q.B.) 102.

6. In *Morrison v. Glover* (1849), 4 Exch. 430, it was *held*, not to mean disputes arising otherwise than between the So. and its members, as members. See *Kelsall v. Tyler*, 11 Exch. 513.

7. Where by acquiescence of the So. Justices decided a dispute in a case wherein the rules did not direct disputes to be referred to them, the Court refused to grant a *certiorari* on the application of the So.—See *Reg. v. West London Philanthropic Burial So.*, 33 J.P. 614. There are other cases to a like effect.—See *Appeal*; *Arbitration*; *Inspection of Books*; *Jurisdiction*.

Dissolution.—1. The Act of 1875 is particularly explicit concerning the dissolution of F. Sos. The powers are given in detail in s. 25. The following is an outline of the sub-sections:

(1) Sos. may be dissolved by several modes; more particularly by consent of five-sixths of members—including honorary members.

(2) The instrument of dissolution must set forth certain required details.

(3) Alteration in instrument of dissolution may be made.

(4) A statutory declaration of compliance with Act to be made.

(5) Instrument of dissolution and all alterations therein to be registered.

(6) Notice of dissolution to be advertised.

(7) Mode of ascertaining value of voting power of members.

(8) Regulations where dissolution of So. made by award of the Registrar of F. Sos.

(9) The provisions not to apply to any So. having branches, without consent of the central body of such So. [*Branches*.]

2. As to *Notices*, see s. 11 of Act of 1876.

Distress, Relief in.—Sos. may be estab. under the Act of 1875 for granting relief to members in distress, s. 8 (1).

Distribution of Intestate's Effects.—Where a member of a F. So. dies intestate, and without a nominee, his effects, not exceeding £50, may be distributed by trustees of the So., “upon such evidence as they may deem satisfactory.” [*Administration*.] [*Nominee Pol.*]

Dividing Sos.—These may be regis. under the Act provided the rules contain distinct provisions for meeting all claims upon the So. existing before such division takes place, s. 11 (4). [*Accumulation*.]

Documents.—1. All documents required to be recorded under s. 14 are to be sent to Chief Registrar of F. Sos., and kept by him with rules of the So., s. 14 (6).

2. As to evidence of documents, see s. 39. [*Evidence*.]

Donations.—1. F. Sos. may receive donations in view of carrying out their objects. s. 8 (1).

2. The trustees, committee, or managers of F. Sos. cannot make donations either to members or others, unless specially empowered so to do by the rules of the So.; or except in the case of hospitals, where members may receive benefits therefrom. [*Hospital*.]

Drafts.—The drafts or orders for payment of moneys made by or on behalf of F. Sos. are exempt from stamp duty. [*Stamp Duty*.]

Dublin.—For directions as to summary jurisdiction in this city, see s. 33 (3).

Duties and Obligations of Sos.—1. Every regis. So. must comply with the law in the following particulars: i. Have a registered office. ii. Appoint trustees, and send their

names to the Registrar. iii. Have auditors of accounts. iv. Send Annual and Quinquennial Returns to the Registrar; and have Quinquennial Valuations made. v. Allow members or others to inspect the books. vi. Supply a copy of the Ann. Return gratuitously to every member or person interested.

2. Neglect by a regis. So. of any of these duties is an offence under the Act, and every officer or member of the committee, who is party to such neglect, commits a like offence; and every offence constitutes a new offence in every week during which it continues, s. 14. [*Registry.*]

Election and Removal of Officers.—1. If the rules of a So. prescribe any formalities in the election or removal of officers, they must be strictly observed—*Roberts v. Price*, 16 L.J. C.P. 169.

2. If by the rules the So. has power to appoint any officer, the appointment of two persons to act jointly in the execution of the office will be valid—*Sharpe v. Warren*, 6 Price, 131. And if one of them dies, the office will revert to the other—*Reg. v. Wade*, 8 E. & B. 384; 27 L.J. M.C. 227.

Embezzlement.—1. The punishment for offences of this class is provided for by s. 16 (9).

2. Embezzlement in an unregis. So. is punishable under 31 & 32 Vict. c. 116 (1868).

3. There are various cases bearing upon the offence, to which it is only necessary to give the reference—*Reg. v. Miller* (2 Mood. 249); *Reg. v. Prowel*, 31 L.J. (M.C.) 71 (Appendix II.); and *Reg. v. Murphy*, 4 Cox C.C. 101. [*Action.*] [*Bond.*] [*Misapplication of Money.*]

Employment.—It is within the legalized objects of F. Sos. to grant relief or maintenance to members when in search of employment, s. 8 (1).

England.—The following points in the Act of 1875 have special reference to F. Sos. estab. in England. i. The Channel Islands and Isle of Man are included (with certain exceptions), s. 4. ii. Summary Jurisdiction Acts in, ss. 4 and 33. iii. Appeal from refusal to register in, s. 11 (8). iv. Transfer of stock in Bank of, s. 15 (6). v. Bankruptcy in, s. 15 (7). vi. Jurisdiction of Supreme Court in, s. 22. vii. Summary procedure in, s. 33. viii. Court of Summary Jurisdiction in, s. 33. ix. Appeals in, s. 33. x. Unregistered Sos. in, see 31 & 32 Vict. c. 116.

Evidence.—1. The acknowledgment of registry to be conclusive evidence that the So. therein mentioned is registered, unless it be proved that the registry of the So. has been suspended or cancelled, s. 11 (10).

2. Documents signed by the Registrar or sealed are receivable in evidence, s. 39. [*Receipt on Mortgage.*]

Executors.—The executors of deceased officers are to pay money due to Sos. before other debts, s. 15 (7). Also to deliver over on demand property belonging to the So., before satisfying other claims, s. 15 (7). [*Priority of Claims.*]

Exemption from Stamp Duties.—See *Stamp Duty Exemptions*.

Existing Sos.—1. All existing F. Sos. registered, enrolled or certified under any former F. Sos. Acts, to be deemed to be registered under the Act of 1875, s. 6.

2. Their rules, so far as they are not contrary to any express provision of this Act, to continue in force until altered or rescinded, s. 6.

3. Sos. with "deposited rules" may register under this Act; or otherwise, remain protected until 31 Dec. 1878, s. 7.

False Pretence.—1. As to what constitutes a false pretence in connexion with F. Sos., see the following cases:

i. Upon an indictment for obtaining money under false pretences, it appeared that in the month of July the prisoner asked the prosecutrix to belong to a Burial Club, which he praised as strong and respectable; and which he said had £7000 in the bank. He did not then induce the prosecutrix to become a member. A month afterwards he went again, and "still praised the Club," but said nothing of the £7000. The prosecutrix then subscribed:—*Held*, that the jury might connect the two statements; and the statement as to the £7000 being false, they found that the prisoner had obtained the money by that false pretence—*Reg. v. Welman*, 1. C.C.R. 189.

ii. In *Reg. v. Woolley* (1 Den. 559) the obtaining money by the secretary of a So. from a member, by telling him he owed it to the Club, whereas he owed part only, was *held* to be obtaining money by false pretences.

Federation.—Under s. 4 of the Act of 1876, registered Sos. or branch Sos. may contribute to or take part (by delegates or otherwise) in the government of any other regis. So. or branch So., if authorized by its rules to do so; and this without being considered a branch So. from so doing.

Fees.—1. No fees are to be payable on the registry of any Friendly, Benevolent, or Cattle Ins. So., etc., or of any amendment of the rules of the same, s. 36.

2. The fees payable under the various sections of the Act for inspection of documents, etc., are to be regulated from time to time by the Treasury. [*Certificate of Birth.*] [*Certificate of Death.*]

3. The fee payable on registration of receipt on mortgage is 2s. 6d., s. 16 (8).

Fidelity.—Officers of F. Sos. are (where the rules of the So. so require) to give bond

for their fidelity. The security of a [Fidelity] Guarantee So. may be taken, s. 20 (1). [Action.] [Bond.] [Negligence.]

Fire Insurance.—F. Sos. may insure against loss or damage by fire of the tools or implements of the trade or calling of the members up to the amount of £15, s. 8 (1).

Fishermen.—Sos. may be formed under the F. Sos. Acts for ins. against loss of or damage to fishing boats, nets, etc., s. 8.

Forms.—See *Acknowledgment of Registry*; *Bonds*; *Model Forms*; *Mortgage*.

Fraud.—Officers or members of F. Sos. guilty of fraud are punishable under various sections of the Act of 1875.

i. Officers, etc., may be summarily convicted, s. 16 (9). The same for obtaining possession of property of So. by false representation, s. 16 (9).

ii. The Court may order the sum obtained or withheld to be repaid, or the property to be delivered up to the So., s. 16 (9), and a further sum of £20, with costs, s. 16 (9).

iii. If order be not obeyed, the offender is to be committed to gaol, with or without hard labour, for 3 calendar months; but this remedy is not to prevent proceedings by indictment, except a previous conviction has been obtained, s. 16 (9).

iv. A member belonging to more than one So., and making a false or fraudulent declaration in the matter, to be deemed guilty of misdemeanor, s. 27.

v. The Chief Registrar may institute proceedings for punishment of fraud; or the Central Office may authorize a member to make complaint, s. 16 (9). [Action.] [Embezzlement.] [Misapplication of Money.] [Summary Jurisdiction.]

Free of the Funds.—A probationary period of 6 or 12 months after entrance is usually stipulated before new members can claim on the funds of the So. When this period has expired, they are regarded as "free of the funds." [Recovery of Arrears of Contribution.]

Friendly Sos. Discharge Act.—The 17 & 18 Vict. c. 56 (1854) was passed especially to prevent the issue of "Nomination" policies by life ins. offices registered under the F. Sos. Acts. [Nominee Policies.]

Funds, Misapplication of.—See *Misapplication of Funds*. [Trustees.]

Funeral Expenses.—1. These may be insured (within certain limitations) in respect of members, or the wife and children of members; or the widow of a member. See *Limitation of Sums Insured*. [Burial Sos.]

2. As to persons of the Jewish persuasion, for the payment of a sum of money during the period of "confined mourning," s. 8 (1).—See also gen. title FUNERALS.

Gazette.—The official organ for advertisements directed to be made under the Act. There are 3 Gazettes, viz. the *London Gazette* for England; the *Edinburgh Gazette* for Scotland; and the *Dublin Gazette* for Ireland.

General Meetings.—1. The supreme control of the affairs of a F. So. may be said always to rest with the general body of members in general meeting.—See *Reg. v. Pratt*, 6 B. & S. 762; *Reg. v. Langhorne*, 4 A. & E. 538.

2. The mode of holding meetings, and the right of voting, and the manner of making, altering or rescinding the rules, have to be provided for in the rules of all new Sos., Sched. II. (3).

3. Collectors must not vote at, s. 30 (4).—See *Quorum*; *Special Meetings*; *Special Resolution*; *Voting*.

Honorary Members.—1. These are members contributing to the funds of the So. by donations, or by contributions, but not receiving, or intending to receive any benefit from its funds.

2. In the dissolution of a F. So. the consent of the honorary members is necessary, s. 25 (1).

Hospital, etc.—Money may be subscribed annually or otherwise to an hospital, etc., by a F. So., in view of securing its members and their families the benefits of such hospital, infirmary, or other institution, according to the rules of the So., s. 15 (10).

Income Tax.—1. The funds of a F. So. not granting assurances above the limits of the Act are free from income tax.

2. The exemption is upon its stocks, dividends and interest chargeable under Schedule C. of the 5 & 6 Vict. c. 35, as well as upon its interest and other profits chargeable under Schedule D. When the funds are invested in public securities, payable through the Bank of England, the exemption must be claimed and proved by a trustee, or the treasurer, or any member, before the Commissioners for special purposes.

3. A member of a F. So. may, for the purposes of the Income Tax Act, deduct the ann. prem. payable for a life assu. or deferred annuity, if the prem. are paid for 3 months at least, from the amount in respect of which he is liable to be assessed.—*Scratchley*.

Industrial Assurance Co.—1. An asso. of this class is defined by the Life Assu. Cos. Act, 1870, to be, any Co. which grants assurances on any one life for a less sum than £20, and which receives premiums or contributions in Gt. Britain or Ireland by means of collectors, at less periodical intervals than 2 months.

2. As to payment by on death of child, s. 28. [Children.]

3. As to collecting contributions more than 10 miles from head office, s. 30. [Collecting Sos.]

4. As to disputes, see s. 30. [*Disputes.*] See also *County Court*.

Insanity.—1. The question of insanity as affecting the liability of F. Sos. towards their members has long been surrounded with difficulty. Where the rules of a So. specially provided for such cases, difficulties did not arise; but this was very rarely the case.

2. The 6 Geo. IV. c. 74 (1825), relating to infants, idiots, lunatics, and trustees of unsound mind, was made (sec. xi.) to apply to F. Sos.; but it did not meet the cases which most affected these.

3. In the case of *Reg. v. Manchester* (5 W.R. 20; 6 E. & B. 919) it appeared to be the opinion of the Court that lunacy was not in any case to be regarded as temporary sickness. And in *Reg. v. Huddersfield* (20 Jurist, 718) it was held that by sickness is meant a state of bodily disease, being a derangement of the functions of the body. Erle, J. C., said: "The word sickness implies a morbid action of the body, occasioned either by external violence, or internal disease: and it has no reference to lunacy, which is a derangement of the mental faculties."

4. In a case before the Liverpool County Court in 1870, the Judge, Mr. Serjeant Wheeler, said in effect that "insanity is just as much bodily disease as paralysis or apoplexy."

5. In the case of *Burton* appellant v. *Eyden* respondent, decided in the Queen's Bench in 1873 (L.R., 8 Q.B. 295) it was held that "insanity" was "sickness" within the meaning of the rules of the So. [*Stoke Bruern F. So., Northamptonshire.* Blackburn, J., said: "If we look at the terms of the Acts [F. Sos. Acts of 1829 and 1855], they speak of sickness, old age, and widowhood: and it is quite clear that mere temporary sickness is not what is contemplated; and I see nothing in the rules themselves that confines the relief to temporary sickness. . . . It certainly seems to me that lunacy is a sickness affecting the health of the body in such a way as to prevent a man's ability for earning his livelihood."]

6. It is clear that the rules of a So. may be so framed as to exclude *insanity*; but if not specially excluded, it may, after the last decision, be held to be included.

7. By the F. Sos. Act of 1875 power is given to provide relief "during sickness or other infirmity, whether bodily or mental," s. 8 (1).

8. Under s. 23 of the Poor Law Amendment Act of 1876, Boards of Guardians have power to call upon a F. So. to repay cost of maintenance of any pauper lunatic, who is a member thereof. This power has been enforced. [The carrying out of this provision has been greatly objected to by members of F. Sos. It is contended that the benefit should be applied for the support of the wife and family.]

Insolvency.—1. Of officers, see *Bankruptcy*; *Priority*. 2. Of a So., see *Dissolution*.

Inspection of Books.—1. In every So. regis. under the Act, members or persons interested in the funds of the So. may inspect the books at the offices of the So. at all reasonable hours. This right not to extend to the inspection of loan accounts of the individual members, s. 14 (1, 2).

2. Books are to be produced in case of dispute, s. 22. [*Investigation.*]

Inspectors.—1. Upon application of one-fifth of the members of a registered So.—or of 100 members in a So. of 1000, and not exceeding 10,000; or of 500 members in the case of Sos. whose members exceed 10,000—the Chief Registrar (or the Assistant Registrars as to Sos. in *Scotland* or *Ireland*) may, with the consent of the Treasury, appoint inspectors to examine into the affairs of the So. and to report thereon; or may call a special meeting.

2. Evidence of good faith of members making such demand shall be required; and security for costs, at the option of the Registrar. Expense to be borne as may be directed, s. 23 (2).

3. This section is not to apply to Sos. with branches unless with the consent of the central body of such So, s. 23 (2, d).

Insurable Interest.—1. Insurable interest is not required in life of child under 10 years of age for ins. within the limits of the Act of 1875, s. 28 (8).

2. And where there is an insurable interest, the limitations of the Act not to apply; nor to contracts made before the passing of this Act. See general title **INSURABLE INTEREST**.

Intestacy.—See *Administration*; *Distribution*.

Investigation of Affairs.—1. The Act of 1875 introduces a new power under which members have ample means of investigating the affairs of F. Sos.

2. Upon the application of certain fixed proportions of the members (see *Inspectors*), the Chief Registrar, or in Scot. or Ireland the Assistant Registrars, may with assent of Treasury: 1. Appoint Inspectors [*Inspectors*]. 2. Convene special general meeting of members, and determine and direct what matters shall be discussed, who shall preside, etc., s. 23 (1) (2). [*Special Resolutions.*]

Investments.—1. In all newly-estab. F. Sos. the mode of investing the funds is to be stated in the rules, Sched. II. (5).

2. The trustees are to invest the funds of the So.: i. with consent of committee or members in any of the following ways, s. 16 (1); ii. In the Post-office Savings Bank, or

in any Savings Bank to any extent, s. 16 (1); iii. or in the Public Funds, s. 16 (1); iv. or on loan to any member upon his policy of assurance, s. 18 (1); v. or by granting loans to members out of a separate loan fund, s. 18 (2); vi. or with National Debt Commissioners, of any sum not less than £50, s. 16 (1); vii. or in purchase of land, s. 16 (1) [*Land*]; viii. and in other securities authorized by rules, s. 16 (1).

3. The property of the So. vests in its trustees: and on death, resignation, or removal of trustee, vests in his successor without conveyance or assignment, except in the case of the public funds, s. 16 (1).

4. On investing with the Commissioners of the National Debt, a declaration of the trustees that the money belongs exclusively to the So. is required.

Ireland.—The following sections of the Act of 1875 relate to the working of F. Sos. in this division of the Kingdom: 4, 10, 11, 12, 15, 16, 22, 23, 24, 33, and 34. [*Country*.]

Irrational Principles.—A So. based upon irrational principles, and seeking to realize a visionary and unattainable object, such as Mr. Robert Owen's socialistic regeneration scheme, does not come necessarily within the meaning of a So. for the propagation of irreligious and immoral doctrines, so as to prevent a creditor recovering his debt. *Pare v. Clegg*, 39 Beav. 589; 30 L.J. Chanc. 472.

Isle of Man.—1. This is to be deemed to be a county for purposes of Act, s. 4.

2. Special provisions are contained for making the Act available to Sos. in the Isle of Man, as also in the Channel Islands, ss. 40 and 31.

Jews; Jewish F. Sos.—In addition to the benefits ordinarily insured by F. Sos., members of the Jewish persuasion are permitted to insure for a sum of money "during the period of confined mourning," s. 8 (1).

Jurisdiction.—A number of cases have arisen in the past as to the jurisdiction of certain Courts in the matter of F. Sos., or in respect of the different charges and offences which have arisen under the F. Sos. Acts of the past. There is no reason for referring to them in detail now. The Act of 1875 appears to reach all possible cases. [*Arbitration*.] [*Disputes*.] [*Summary Jurisdiction*.]

Justices of the Peace.—Under some former Acts, upon these was devolved powers of settling disputes, etc. Under the present Acts such powers are almost absent. Under s. 15 (1) Sos. may be required to inform Justices of the Peace as to object of meeting. [*Corresponding Acts*.] And by s. 33 (3) Justices in Petty Sessions may constitute a Court of Summary Jurisdiction.

Land.—1. It includes hereditaments; and in *Scotland* subjects of whatever description, and chattels real, s. 4.

2. A So., or any branch of a So. (if the rules thereof so provide), may hold, purchase or take on lease, in the names of its trustees, *in every county where it has an office*, land, and may sell, exchange, mortgage, lease, or build upon the same; with power to alter, pull down, and rebuild, s. 16 (1, d) (2) (6) (7). [*Buildings*.]

3. Benevolent Sos. regis. under Act may not hold more than one acre of land, s. 16.

Legal Proceedings.—1. The Act embodies very minute details in respect to legal proceedings to be taken under it, *vide* s. 21. [*Actions*.] [*Disputes*.]

2. Proceedings may be taken against a registered So. either in the name of its trustees, or of any officer who receives its contributions, and continue notwithstanding that such officer discontinues to be connected with the So., s. 21.

3. Service of summons, etc., may be at registered office of So., etc.; or, if office be closed, by posting the same on the outer door, and giving notice by registered letter to committee of management. See also s. 30.

Limitation of Deposits, s. 18 (2, d). [*Deposits*.]

Limitation of Sums Insured, etc.—1. No So. regis. under Act of 1875 to insure (in all) more than £6 on the death of any child under 5 years of age; nor more than £10 on a child between 5 and 10, s. 28 (1).

2. No sum greater than £200 (and bonus additions thereon) shall be insured on any adult life, except as to F. Sos. estab. before 15 Aug. 1850 (see s. 6).

3. Nor more than £50 a year by way of annuity, s. 27.

4. Sos. may require statutory declaration hereon; and any fraudulent statement is a misdemeanor, s. 27.

5. In *Clayton v. Owen*, before the Master of the Rolls in 1862, the facts were these: A person had effected an ins. on his life for £499 19s. in a So. enrolled pursuant to 10 Geo. IV. c. 56 (1829), and 4 & 5 Wm. IV. c. 40 (1834). The pol. was payable on his decease to his widow, and if none, to his exors. admors. or assigns. All previous Acts relating to F. Sos. were repealed and consolidated by 13 & 14 Vict. c. 115, s. 2 (1850); and ins. in favour of relations was thereby limited to £100—but the rights of parties under former Acts were preserved. The ins. paid the premis. till his decease, and died indebted, leaving his widow surviving:—*Held*, that the pol. was good, though it exceeded £100, and that the widow was entitled to the sum insured—8 L.T. N.S. 802.

Loan Fund.—A special loan fund may be created for the purposes of the members of regis. Sos., to be lent on personal security or otherwise, s. 18 (2).

Loan on Policy.—Loans to the extent of one-half the sum insured may be made to members on their policies and two satisfactory sureties for repayment, s. 18 (1).

London.—The Lord Mayor and Aldermen have summary jurisdiction in the matter of F. Sos. in the City. *Summary Jurisdiction.*

Lunacy.—See *Insanity*; *Poor Law Amendment Act.*

Magistrate, Stipendiary.—Jurisdiction of, s. 33 (3).

Man, Isle of.—England includes Isle of Man, s. 4. But as to special application of the Act to F. Sos. in, see s. 40.

Management.—See *Committee of Management.*

Married Woman's Property Act, 1870.—By this Act, any married woman, or woman about to be married, may apply in writing to the trustees of a regis. F. So., that any benefit in the funds of the So., to the holding of which no liability is attached, and to which she is entitled, may be entered in the books of the So. in her name, or intended name, as a married woman entitled to her separate use; and it shall be the duty of the trustees to cause the same to be so entered; and thereupon such benefit shall be deemed to be her property, and shall be payable as if she were an unmarried woman; provided that if it had been obtained by her by means of moneys of her husband without his consent, the Court may order it to be paid to the husband.—*Scratchley.*

Medical Officer.—If by the rules of a F. So. a medical man is to be appointed, he must, by s. 36 of the Medical Act, 1858 (21 & 22 Vict. c. 90), be duly registered under that Act.

Meetings.—See *General Meetings.*

Member.—1. A person may, in the absence of any rule to the contrary, in any So. to which he may belong, become a member of any number of F. Sos.; but he cannot lawfully receive benefits in the aggregate amounting to sums beyond those set forth under *Limitation of Risks*; but there is no limit imposed in the Act to the amount of weekly benefit in the event of sickness. In practice there is usually a limit imposed—the aggregate benefits should not exceed his weekly earnings.

2. Under s. 27, a member may be called upon to make a statutory declaration of the benefits he is insured against.

Memorandum of Association.—A special resolution for converting a F. So. into a Co. is equivalent to. [*Company.*] [*Special Resolution.*]

Military, Militia and Volunteer, etc., Services.—1. No person by reason of enrolment or service in the Militia, Naval Coast Volunteers, Naval Reserve Volunteer Force, Yeomanry or Volunteers, will lose or forfeit any interest in a F. So., registered or unregistered, *notwithstanding any rule of such So. to the contrary.* But in a So. whose rules were certified before 23rd July, 1855, a Militia man may be required to pay an extra contribution during the time he shall be serving out of the United Kingdom, or his claim on the So. may be suspended—if the rules contain a clause against the enrolment or service of any member in the Militia; but on his return he is to be reinstated as before, s. 26.

2. Disputes arising on account of such service are to be decided by Court of Summary Jurisdiction, s. 26.

Minors.—1. No child under 3 can be a member of any So. registered under the Act of 1875, s. 15 (8, a).

2. Sos. consisting of members between 3 and 16 years of age may be regis. under this Act, "subject to such regulations as may be made in that behalf," s. 15 (8, a).

3. Persons over 16, but under 21, may be admitted to membership, and enjoy all the rights of a member (unless the rules shall provide to the contrary), s. 15 (8).

4. Minors of the latter class may execute all instruments, and give necessary acquittances, s. 15 (8).

5. But shall not be a member of the committee of management, trustee, manager, or treasurer of the So.

6. Rules of Sos. existing at commencement of this Act to remain valid, s. 15 (8, b). [*Children.*]

Minute Book.—The proceedings of the committee of management of a F. So. should be entered in a minute book; and the minutes should be signed and confirmed as the rules may direct—*Priestly v. Hopwood*, 10 L.T. Rep. N.S. 646.

Misapplication of Funds.—1. Any person obtaining possession by false representation or imposition of any property of the So.; or who, having the same in his possession, misapplies the same, or wilfully applies any part thereof to purposes other than those expressed or directed in the rules of the So., *and authorized by this Act*, he shall on complaint of the So., or any of its members, or the trustees, or the Registrar, be liable on summary conviction to a penalty, or to imprisonment, s. 16 (9).—See *Davie v. F. So. of Colington*, 43 Sc. Jur. 54; 9 Macph. 96; 8 Scottish Law Rep. 100.

2. It would appear from various cases which have arisen that the application of moneys for the purpose of drinking, feasting, bands, processions, etc., fall within the meaning of misapplication of funds, where not directly authorized by the rules; and that the committee of management, or directors, would therefore be punishable under the preceding section.

3. See case of *Farriers' Horseshoe Fund* in our historical art. under date 1847; or 12th Annual Rep. of Registrar of F. Sos., pp. 23-5.

Misconduct.—See *Embezzlement*; *False Pretence*; *Fraud*; *Investigation of Affairs*; *Misapplication of Funds*; *Misdemeanor*; *Offences*; *Penalties*; *Summary Proceedings*; *Unregistered Sos.*; *Withholding Money*.

Misdemeanor.—A person being a member of more than one F. So., and knowingly making a false or fraudulent declaration in the matter, shall be guilty of a misdemeanor, s. 27. [*Action.*] [*Embezzlement.*] [*Fraud.*] [*Summary Jurisdiction.*]

Model Forms.—The Central Registry Office is (with assent of Treasury) to prepare and circulate model forms of Accounts, Balance-sheets, and Valuations.

Mortality, Statistics of.—See *Quinquennial Returns*. See also general title F. Sos., MORT. AND SICKNESS EXPERIENCE OF.

Mortgage.—1. It was formerly believed that mortgages in connexion with advances made by F. Sos. required no stamp. This view is not upheld, s. 16 (7). [*Stamps.*]

2. A So. may discharge mortgages by a form of receipt indorsed on the deed, viz. either the form given in the 3rd Schedule of the Act, or as provided in the rules. This provision does not apply to *Scotland* or *Jersey*, s. 16 (7).

3. If the mortgage or other security is registered under any Act for the registration or record of deeds, or titles, or is copyhold, a certificate of satisfaction by indorsement on the deed or otherwise shall be given for fee of 2s. 6d., s. 16 (8).

Name.—1. Sos. cannot be registered in name of existing Sos.; nor with names deceptively similar, s. 11 (3).

2. No So. hereafter to change its name without assent of Registrar, s. 11 (3).

3. A change of name does not affect legal proceedings, s. 24 (2).

Naval Coast Volunteers.—See *Military*.

Negligence.—The effect of negligence on the part of the committee of management in absolving surety from liability under guarantee bond has been raised in several cases.—See *Madden v. M'Mullen*, 13 Ir. C.L.R. 305; 4 L.T. Rep. N.S. 180; *Philips v. Foxall*, 27 L.T. Rep. N.S. 231; *Thistle F. So. of Aberdeen v. Garden*, 12 Shaw & D. 745.

Nominee Policies.—1. Nominees are persons "claiming through a member," s. 4. 2. Nominee policies issued under s. 44 of 18 & 19 Vict. (1850) to remain effective without limitation of amount, and notwithstanding repeal of that Act, s. 6.

3. Sums not exceeding £50 may now be made payable to nominees, s. 15.

4. The right of nomination may be exercised in favour of any one not an officer or servant of the So. [unless such officers or servants happen to be relatives—*vide* Act 1876, s. 10]; but only by persons aged 16 and upwards, s. 15 (3).

5. If no nominee exists, then policies are payable to persons entitled by law. [*Assignment of Policy.*]

Notices.—1. Notice of cancelment or suspension of registry, s. 12 (3).

2. Notice of dissolution of F. So., s. 25 (6). [*Dissolution.*]

3. Notice as to estab. of new branches to be given to Registrar, s. 29 (3).

4. Notice to be given before forfeiture of policy in "Collecting Sos.," s. 30 (2).

5. Notices of annual meetings where, required, s. 30 (7). [*General Meetings.*]

[*Special Meetings.*]

6. As to notices by post, s. 30 (11). [*Service.*]

Objects.—F. Sos. may be established for carrying out all or any of the following objects:

i. Relief in sickness or other infirmity; in old age, widowhood, or orphanhood, s. 8 (1).

ii. Payments on birth or death, and funeral expenses, s. 8 (1).

iii. Payments in distress; to members seeking employment; and in case of shipwreck, or damage of boats, nets, etc., at sea, s. 8 (1).

iv. Endowments, s. 8 (1).

v. Insurance of tools or implements of trade of members against fire, s. 8 (1).

[*Fire Ins.*]

vi. Also for other objects under special authorization, s. 8 (5). [*Scope of Acts.*]

[*Specially Authorized Sos.*]

Offences under F. Sos. Acts.—i. As to what constitutes an offence, s. 14 (3). ii. As to the penalty, s. 32 (2). iii. Offences by a Collecting So., s. 30 (12). iv. An offence by a So. is also an offence by officer of So., s. 14 (4). [*Actions.*] [*Embezzlement.*]

[*Fraud.*] [*Misappropriation.*] [*Penalties.*]

Office.—Every So. enrolled under the Act of 1875 must have a registered office, s. 14 (1). [*Notices.*] [*Registered Office.*]

Officer.—This designation extends to trustee, treasurer, secretary, or member of committee of management of a So.; or a person appointed to sue and be sued on its behalf. See interpretation clause, s. 4; also s. 14 (4); s. 15 (7) [*Priority*]; and s. 20.

2. Every officer of a registered So., having receipt or charge of its money, must, if required by the rules, give security, and render account, when called upon, s. 20. [*Penalties.*]

3. The sec. and other officers of F. Sos. can only look to the funds of their So. for remuneration.—See *Alexander v. Worman*, 30 L. J. Exch. 198. [*Election and Removal of Officers.*]

Old Age.—This is defined by the Act of 1875 to mean any age over 50.

Penalty.—1. Penalties are inflicted under the Act as follows :

- i. For making false declaration on investing, s. 17 (3). [*Investments.*]
- ii. For not making Returns, s. 32 (1).
- iii. For falsification—any person wilfully falsifying a balance-sheet, contribution-book, return or other document, is liable to a penalty of £50, recoverable at the suit of a Registrar, or person aggrieved, s. 32 (1).
2. Any person committing an offence under the Act for which no other penalty is provided is liable to a penalty of not less than £1, nor more than £5, recoverable in like manner, s. 32 (2).
3. All penalties imposed by the Act, or by regulations made under it, or by a So.'s rules, are recoverable in a Court of Summary Jurisdiction, s. 32 (3). [*Summary Jurisdiction.*]

Person Claiming through a Member.—This expression includes the heirs, executors, administrators, and assigns of a member; and also his nominees where nomination is allowed, s. 4.

Place of Meeting.—If this be prescribed by the rules, it must be adhered to.—See *Reg. v. Pratt*, 6 B. & S. 762.

Policies.—1. Until comparatively recently F. Sos. only issued books or cards signifying membership. This was a loose form of contract, wherein the member agreed to be bound by the rules generally. It is now becoming usual to issue a pol. The plan was introduced, we believe, by the *Royal London F.* in 1861, followed by the *Integrity*; and more recently by the *Royal Liver* and the *United Assu.*

2. Under the Act of 1875 it is made compulsory upon "Collecting Sos." to issue policies, s. 30 (1).

3. Such policy is not forfeitable without notice, s. 30 (2). [*Notices.*]

4. F. So. policies are exempt from stamp duty, s. 15 (2).

Poor Law Amendment Act, 1876.—Under s. 23 of this Act Boards of Guardians have power to call upon a F. So. to repay cost of maintenance of any pauper lunatic, who is a member of a F. So. [*Insanity.*]

Post, Notices by.—See s. 30 (11).

Power of Attorney.—1. A power of attorney, or similar instrument for transfer of any money of a F. So. invested in the public funds is free from stamp duty, s. 15 (2).

2. This exemption does not apply as to other investments.—See case of *Royal Liver So.*, L.R. 5 Exch. 78.

Preliminary Expenses.—The individual promoters of a F. So. are liable to the payment of the expenses they have incurred in its formation; and this as well after as before registry, unless (in the latter case) the rules provide for the payment of the same.

Previous F. Sos. Acts.—1. These are all repealed to the extent set forth in the 1st sched. of the Act of 1875; but the validity of their past operations is not disturbed, s. 5.

2. All existing Sos. registered, enrolled or certified under any of such Acts are to be deemed as enrolled under this Act, s. 6.

3. Their rules, so far as the same are not contrary to any express provisions of the Act of 1875, to remain in force until altered or rescinded, s. 6.

4. Sos. with "Deposited Rules" may register under this Act, or remain protected (without so doing) up to 31 Dec. 1878, s. 7.

Priority of Claim.—1. On death, bankruptcy, etc., of officers of So., the So. is to have priority of claim in respect to any of its moneys in hands of such officer on the occurrence of such event, s. 15 (7).

2. But to establish such priority debts must be due from them *officially*.—See *Ex parte Jardine*, 10 L.J. (N.S.) B. 11. Also see *Ex parte the Amicable So. of Lancaster*, 6 Ves. 98.

3. There is no priority on notes carrying interest; nor on debts due from a person not an officer; nor by a banker appointed to remit funds to invest.—*Scratchley*.

There are numerous cases in the law-books bearing upon the question of priority. In *Absalum v. Gethin* it was held that neglect to audit the accounts of the treasurer did not deprive the So. of its priority (11 W.R. 332; 32 Beav. 322). See *Ex parte Ray*, 3 Dea. 537.

See also *Ex parte Ashley*, 6 Ves. 441; *Ex parte Ross*, 6 Ves. 802; *Ex parte Stampford F. So.*, 55 Ves. 280; *Ex parte Buckland*, 1 Buck. 514; *Anon.* 6 Mad. 98; *Ex parte O'Donnell*, L.R., 1 Q.B. 274.

Probate.—There is no duty payable on probate when the estate is under £100.—*Vide* 27 & 28 Vict. c. 56, s. 5 (1864). [*Administration.*]

Property.—1. This means all real and personal estate, as well as books, papers, etc., s. 4.

2. The property of F. Sos. vests in its trustees for the time being, for the use and benefit of the So., s. 16 (3).

3. Upon death, resignation, or removal of trustee, the property vests in survivors or successors by simple operation of law, s. 16 (4). [*Trustees.*]

Proxies.—These cannot be admitted in voting unless authorized by the rules.—*Reg. v. Grimshaw*, 10 Q.B. 747; 16 L.J. Q.B. 385.

Public Auditors.—1. The Treasury may from time to time appoint Public Auditors and

Valuers for the purpose of this Act, and may determine rates of remuneration. 2. *But the employment of such Auditors and Valuers is not compulsory upon any So.*, s. 35. See *Accounts, Annual Returns, Auditors, Valuers.*

Punishment.—See *Fraud; Misconduct.*

Quinquennial Returns.—1. Within 6 months after 31 Dec. 1875, and so again within 6 months after each succeeding period of 5 years, there is to be sent to the Registrar a return (to be called the “Quinquennial Return”) of the sickness and mort. experienced by the So. during the preceding 5 years. An abstract of such returns to be laid before Parl., s. 14 (1, e).

2. As to cases in which these may be dispensed with, see proviso, end of s. 14.

Quinquennial Valuations.—1. Once at least in every 5 years after the commencement of this Act, or the registry of the So., and so again after the expiration of each succeeding 5 years, every regis. So. is to cause a valuation of its affairs to be made.—See special title F. SOS., VALUATIONS OF.

2. As to cases in which these may be dispensed with, see proviso, end of s. 14.

Quorum.—If no quorum be prescribed by the rules, a majority of the members entitled to vote must be present—*Howbeach Coal Co. (Lim.) v. Teague*, 6 Jur. N.S. 275.

Receipt or Mortgage.—1. The effect of a receipt upon a mortgage for repayment of money advanced is that of a re-conveyance (except as to *Scotland* and the *Island of Jersey*), s. 16 (7).

2. As to effect of “Registration of Receipt,” see s. 16 (8).

Recovery of Arrears of Contributions.—1. The theory on which F. Sos. have proceeded is that of raising subscriptions for their purposes by means of the *voluntary contributions* of their members. Hence there has always been a doubt as to their legal remedy in the case of members in arrear of payment. The point is one of considerable importance in practice; and some definite declaration of the law upon it is much required.

2. It has been contended that as F. Sos. usually require contributions to be paid for 6 or in some cases 12 months before the member is “Free of the Funds,” that in effect the contributions of the members are always paid in advance to that extent. Admitting this view, the rules should define a corresponding period at the termination of which non-payment of contributions should exclude from benefit, or membership.

3. During the year 1828 one of the London F. Sos. sued 27 of its retiring members for arrears of contributions. The magistrates from the importance of the question delayed their decision, and what it finally was we cannot now ascertain.

4. About this date a F. So. at Ellon (co. Aberdeen) sued some of its members for no less than 14 years’ alleged arrears. The Circuit Court, however, awarded 2 years’ arrears only, during which period the retiring members would have been entitled to benefits upon paying up arrears.

5. It was *held* on appeal in Edin. about this date that no arrears could be recovered unless there was a regulation to that effect in the rules of the So. suing.

6. We do not find any recent case on this point. The prob. of recovering must, we think, depend entirely upon the rules of each particular So. [*Contributions.*]

Reduction of Contribution.—On a surplus being shown at a periodical valuation, such surplus may well be applied to a reduction of contributions until the period for the next valuation. The rules of Sos. should now be shaped to provide for this event. [*Surplus.*]

Refusal to Register.—See s. 11 (8), also *Appeal; Acknowledgment of Registry.*

Registered Office.—Every So. enrolled under this Act is to have a Registered Office to which all communications and notices may be addressed; and must send to the Registrar notice of the situation of such office, and of every change therein, s. 14 (1, a). [*Notices.*]

Registered Sos.—1. All existing F. Sos. registered, enrolled, or certified under any former Act relating to F. Sos. or Cattle Ins. Sos. shall be deemed to be registered under the Act of 1875, s. 6.

2. The rules of such Sos., so far as they are not contrary to any express provision of this Act, to continue in force until altered or rescinded, s. 6.

Registration of Receipt on Mortgages.—For its legal effect see s. 16 (8). Fee 2s. 6d.

Registry of F. Sos.—1. No So. can be registered under this Act which does not consist of 7 persons at least, s. 11 (1).

2. Application for registry is required to be signed by 7 members at least, and by the Secretary, and sent to the Registrar, with written or printed copies of rules, together with a list of the names of the Sec. and of every trustee or other officer authorized to sue and be sued on behalf of the So., s. 11 (2).

3. See hereon *Annuities; Appeals; Cancellation of Registry; Collecting Sos.; Duties and Obligations; Names; Objects; Refusal to Register; Scope of Acts.*

4. As to Sos. doing business in more than one country, s. 11 (6).

Registry, Cancellation and Suspense of, s. 12.

Registry Office.—The Act of 1875 provides for the establishment of a Central Registry Office for F. Sos.; and defines its constitution and functions, s. 10.

Regulations.—1. The Treasury is from time to time to make regulations for carrying out the F. Sos. Acts.

2. All such regulations are to be laid before Parliament.
3. Until otherwise provided the forms used in the 4th Schedule of the Act to be used,
- s. 38. See *Rules*.

4. At least one set of regulations with forms appended have been issued by Treasury. They can be obtained at the Registry Office of F. Sos.

Removal of Officers.—When trustees are removed from office, Registrar may transfer stock, s. 15 (6).

2. Removals of committee and officers are to be provided for in rules of new Sos., Schedule II. 4.

Remuneration of Officers.—The rules of all Sos. should contain exact provisions on this point. As a principle the remuneration must come out of the funds of the So., *i.e.* trustees, etc., are not personally liable—*Braithwaite v. Schofield*, 9 B. & C. 401; *Burton v. Tannahill*, 25 L.J. Q.B. 135.

Repeal of former F. Sos. Acts.—All former Acts are repealed to the extent set forth in the 1st Schedule of the Act of 1875; but this is not to extend to the past operations of Sos. under such Acts, s. 5.

2. All Sos. previously registered, enrolled, or certified under such former Acts to be deemed to be registered under the Act of 1875, s. 6.

Resolution.—See *Special Resolution*.

Ridings of the County of York deemed to be separate counties for the purposes of the Act, s. 4.

Rifle Corps.—See *Military, etc., Service*.

Rules.—1. Rules of Sos. registered, enrolled, or certified under former Acts remain in force, so far as they are not contrary to the express provisions of the Act of 1875, s. 7.—See *Kelsall v. Tyler*, 11 Exch. 513.

2. The rules of every newly registered So. are to provide for certain specific things set forth in detail in the 2nd Schedule of the Act—as holding of meetings, appointment and removal of officers, investment of funds, etc.—See also ss. 4, 11, 13, and 14.

3. Copies are to be sent to Registrar; and also of all alterations of rules, s. 13.

4. Alterations of rules are not valid until registered. [*Amendment of Rules.*]

5. Every person is entitled to a copy of the rules of an ordinary F. So. on payment of 1s.; and every member of a “Collecting So.” for 1d. [*Collecting Sos.*]

6. Delivery of untrue rules is a misdemeanor, s. 13 (6).

7. As to recording rules of branches, s. 29 (2).

8. Rules of Cattle Ins. Sos. to have effect of covenant, s. 31 (1).

9. Rules are no longer certified as being “in conformity with law”: but an acknowledgment of registration is given in place of former certificate, s. 11 (7). [*Registration.*]

Savings Banks.—Any amount of the funds of a F. So. may be deposited in a savings bank, s. 16 (1).

Schedule II.—A misprint in para. 5 of this Schedule is corrected by s. 12 of the Act of 1876.

Scope of Acts.—1. The F. Sos. Acts of 1875 and 1876 extend to the following classes of associations:

i. Friendly Sos., s. 8 (1). [*Constitution.*] [*Objects.*]

ii. Cattle Ins. Sos., s. 8 (2). [*Cattle Ins. Sos.*]

iii. Benevolent Sos., s. 8 (3). [*Benevolent Sos.*]

iv. Workmen's Clubs, s. 8 (4).

v. Specially Authorized Sos., s. 8 (5). [*Specially Authorized Sos.*]

2. Thus several classes of Sos., formerly brought under the control of the F. Sos. Acts, are now removed therefrom—such as BENEFIT BUILDING SOS.; INDUSTRIAL PROVIDENT SOS.; and TRADES UNIONS. These are respectively made the subjects of special legislation.

Scotland.—1. As to Assistant Registrar for Scotland, his qualification, and his functions, see s. 10.

2. Appeal from his refusal to register, s. 11 (8). Cancellation of registry, s. 12.

3. Court of Summary Jurisdiction and Appeals in Scotland, s. 33 (3).

Sea, Deaths at.—s. 14, sub-sec. (2), not to apply to deaths at sea; Act of 1876, s. 7.

Seamen.—1. These may insure against loss of effects by shipwreck; or for relief while in distressed circumstances so occasioned, s. 8 (1).

2. Their serving in Volunteer force is no ground for expulsion, s. 26.

3. These are usually deemed as of a specially hazardous class.

Secret Orders.—See *Corresponding Sos.*

Security.—To be given by officers of F. Sos., s. 20 (1).

Service.—1. Directions for service of summonses, writ, process, etc., upon officer or other person sued by the So., are contained in s. 21 (4).

2. Service of notice by post, etc., s. 30 (11).

Sickness.—Returns of sickness to be sent to Registrar, s. 14 (1, e). [*Quinquennial Returns.*]

Societies.—1. For privileges of Sos. regis. under Act of 1875, see s. 15. [*Scope of Acts.*]

2. As to duties and obligations, see s. 14.

3. The Corresponding Sos. Acts do not apply to registered F. Sos., except in default of giving information to Justices when required, s. 15 (1). [*Corresponding Sos.*]

Special Meetings.—The Act of 1875 gives powers to Registrar (and to Assistant Registrars in Scotland and Ireland), with the consent of the Treasury, upon requisition of a certain defined number of members, to call special gen. meetings, and discuss the affairs of the So., s. 23 (2). [*General Meetings.*] [*Inspection.*] [*Investigation of Affairs.*] [*Quorum.*]

Special Resolution.—Such a resolution is one passed by not less than three-fourths of members entitled to vote, personally or by proxy (where the rules allow of proxies), at any gen. meeting at which the intention to propose such resolution has been given according to the Rules, s. 24.

Specially Authorized Sos.—Under s. 8 (5) of the Act of 1875, the Treasury may authorise the formation of Sos. for purposes not therein specified, but to which the Act “ought to be extended.” But the operation of the Act may be limited in respect of such Sos., s. 9.

Stamp Duty Exemptions.—1. The documents exempted under the Act are the following:

i. Power, warrant, or letter of attorney granted by any person as trustee for the transfer of any money of the So. invested in his name in the public funds :

ii. Order or receipt for money contributed to or received from the funds of the So. by virtue of its rules, or this Act :

iii. Bond given to or on account of the So., or by the treasurer or other officer thereof:

iv. Draft or order, or form of policy, or appointment or revocation of appointment of agent, or other document required or authorized by this Act, or by the rules of the So.

2. These exemptions only apply to Sos. registered under the Act.

3. The exemp. does not extend to securities in which the funds of F. Sos. are invested.

4. For an important decision hereon see L. R. 5 Exch. 78—case of *Royal Liver F. So.*

Stock.—Registrar may make transfer of stocks standing in name of trustees in certain contingencies, s. 15 (6).

Summary Jurisdiction Acts.—These are—1. As to *England and Scotland*, 11 & 12 Vict. c. 43, and the Acts amending the same.

2. As to *Ireland*, within the Police District of Dublin Metropolis, the Acts regulating the powers and duties of Justices of the Peace for such district, and of the police of such district. Elsewhere in Ireland, the “Petty Sessions (Ireland) Act, 1851,” and any Act amending the same, s. 4.

Summary Proceedings.—1. s. 16 (9) and 33. See *Fraud ; Misappropriation of Funds.*

2. Proceedings may, however, be taken by indictment, although the offender be a member of the So. See 31 & 32 Vict. c. 116. [*Jurisdiction.*]

Summons.—As to service of, against officers, s. 21 (4). [*Fraud.*]

Surety.—See *Officer ; Treasurer.*

Surplus.—1. Under s. 19 of the Act of 1875, power is given for accumulating at interest, for the use of any member, any surplus of his contributions to the funds of the So.

2. But as power is given in the same section for the withdrawal of such accumulations from time to time, it seems reasonable that such surplus should be applied, where so provided by the rules, to a *reduction of the contributions of the members ;* or

3. If preferred, an increase of benefits.

4. The clause seems to have been especially framed to meet the case of *Dividing Sos.*

Surrender Values.—1. With the introduction of contributions graduated according to age, and other analogous improvements—lifting the financial operations of F. Sos. out of the region of doubt into the range of certainty,—the way was prepared for securing to members a surrender value in the event of their desiring to relinquish all claims upon the funds in respect of benefits they had paid for. But in all such regulations the interests of the members who remain must be regarded equally with those who retire.

2. Mr. W. Fraser stated that in 1831, in several of the better constituted F. Sos. in Scot., members, in case of disability to continue their membership, were entitled to demand *surrender values* in regard to certain portions of their contributions ; the rules of these Sos. being specially shaped to this end.

3. The practice is steadily advancing. Where it prevails, provision must be made for it in the periodical valuations.

Suspension of Contributions and Benefits.—1. Cases have arisen, where, in consequence of distress in certain districts, it has been deemed desirable to take power to suspend all contributions and benefits for a period. This can only be done by authority of the rules of the So. ; or by alteration of rules in conformity to law.

2. The late Mr. Tidd Pratt drafted a rule to meet such cases, as follows :

That if the members be rendered incapable of paying their contributions through any emergency of trade, or any other cause over which the members have no control, the President shall have power to call a summoned meeting, to take into consideration such emergency, or other causes ; such meeting to have power to suspend payment of contributions for any period not exceeding 12 months, if the majority of members deem it necessary. Should the cause of distress continue longer than 12 months, another meeting shall be held to consider the necessity of commencing another period not exceeding 12 months, under this rule.

Suspension of Registry.—1. The Chief or Assistant Registrars may suspend the registry of a F. So. for certain enumerated causes and offences, by writing under their

hands for any term not exceeding 3 months; and may, with the approval of the Treasury, renew such suspension from time to time for a like period, s. 12 (2).

2. Not less than 2 months' notice to be given, specifying grounds of proposed suspension, s. 12 (3).

3. The So. has right of appeal, s. 12 (4).

4. The effect of such suspension is that the So. ceases to enjoy privileges of a registered So.; but without prejudice to liability incurred during such suspension, s. 12 (5). *Appeal; Cancellation of Registry; Registry.*

Trade Unions.—1. The association of these with F. Sos., even as a matter of legis., is now happily remedied. They can hardly be said to have anything in common.—See *Hornby v. Close*, 2 Q.B. 154; and *Farrar v. Close*, 4 Q.B. 602.

2. The stat. relating to T. Unions are 34 & 35 Vict. c. 31; and 39 & 40 Vict. c. 22.

3. Some of the Trades Unions grant sickness, or funeral benefits to members and their wives. But no legal proceedings can be taken to recover any such benefit.—See case of *Kidderminster Weavers Asso.*, before the Kidderminster County Court in May, 1877.

Transfer of Engagements.—See s. 24, proviso a. [*Amalgamation.*] [*Special Resolution.*]

Transfer of Members.—See s. 30 (3). See *Collecting Sos.* These regulations apply to registered and unregistered Sos.

Transfer of Stock.—See *Stock; Trustees.*

Treasurer.—1. The manner of appointing, and of removing these officers are to be set forth in the rules of all new Sos., Sched. II. (4). This should be done in the case of all amended rules.

2. Treasurers are to render accounts when required, s. 20 (2).

3. The treasurer of a F. So. was held to be an accountable officer, not a "clerk or a servant," and could not be indicted for embezzlement.—*Reg. v. Tyree*, 1 L.R. (C.C.) 177. See also *Barrett app., Markham resp.*, 7 L.R. (C.P.) 405. See *Bankers; Disputes; Priority of Claim.*

3. The bond by treasurer is to be given with surety, s. 20 (1).

Treasury, The, means the Lords Commissioners of Her Majesty's Treasury, s. 4.

Trustees.—1. The rules must provide for the appointing and removal of trustees, s. 14 (1); Sched. II. (4). They are to be appointed at some meeting; and resolution appointing them is to be sent to Registrar.

2. As to their *Duties*, see s. 16 (1).

3. As to their *Powers*, see s. 14 (1); s. 15 (7); s. 16 (2); s. 16 (9); s. 20 (2); s. 16 (6); s. 16 (7 & 8); s. 16 (9).

4. As to their *Legal Responsibilities*, see s. 16 (3); s. 16 (4); s. 16 (5); s. 17 (1); s. 21 (3).

5. They are to be *Indemnified*, s. 15 (5); s. 16 (10).

6. As to their *Death, Lunacy*, etc., s. 15 (6); s. 21 (3).

7. The Trustee Acts are 13 & 14 Vict. c. 60; and 15 & 16 Vict. c. 55. [*Amendment of Rules.*]

Union of Sos.—See *Amalgamation.*

Unregistered Sos.—1. Deposit of rules by, no longer allowed. See *Collecting Sos.; Deposit of Rules; Transfer of Members.*

2. Where an unregistered So. had dissolved, and a portion of its members formed themselves into a registered So., it was held that the Justices had no jurisdiction against an officer of the orig. So. who did not join the new So., and retained in his possession the papers of the orig. So.—*Patrick v. Gilbert*, 34 J.P. 597.

3. As to the effect of a bond given to an unregistered So., see *Jones v. Woollam*, 5 B. & Ald. 769; *Margett v. Parkes*, 1 Dowl. & L. 582. [*Bond.*]

Valuations.—1. These are to be made every 5 years, s. 14 (1); see also general title F. SOS., VALUATIONS, etc.

2. The Chief Registrar may, with the approval of the Treasury, in respect of Sos. of a special character, to whose operations he may deem the same inapplicable, dispense with the Quinquennial Return, if the So. enables him to inspect its books and obtain by that means sufficient information as to its experience of sickness and mort., s. 14 (6).

Valuers.—The Treasury may from time to time appoint Public Auditors and Valuers for the purposes of the Act, and may determine the remuneration to be paid by Sos. for the services of such Auditors and Valuers; but the employment of such Auditors and Valuers is not compulsory on any So., s. 35.

Variation of Benefits under Rules.—See *Alteration of Rules.*

Volunteer Corps.—See *Military Service.*

Voting of Members.—Proxies may be used in Sos. where the same are provided for in their rules. (*Special Resolutions.*)

Winding-up.—See *Dissolution.*

Withholding Money.—1. Where any person withholds or misapplies money of a So., complaint may be made to Justices by any member, authorized by a gen. meeting of the So., or by the trustees, or a committee of management, or by the central office, s. 16 (9). [*Misapplication of Funds.*]

Working Men's Club.—Definition, and registration of, s. 8 (4).

Workmen's Tools.—These and other implements of trade belonging to members of F. Sos. may be insured by F. Sos. up to the extent of £15.

Yeomanry Corps.—See *Military Service*.

FRIENDLY SOCIETIES, SPECIAL.—In the preceding articles many references are made to, and details given of, Special Trade or Class Sos., or to Asso. embodying some novel or unusual feature. It may be convenient to make reference to these under the present title:

Affiliated Orders. Vol. IV. pp. 450 and 528.

Annuity Sos. Vol. IV. p. 575.

Burial Sos. Vol. IV. pp. 408 and 563. [FUNERALS.]

Collecting F. and Burial Sos. Vol. IV. pp. 563 and 570.

County F. Sos. Vol. IV. p. 537.

Deposit F. Sos. Vol. IV. pp. 428 and 561.

Dividing F. Sos. Vol. IV. p. 558.

Female F. Sos. Vol. IV. p. 577.

Friendly Sos. with Remarkable Names. Vol. IV. p. 606.

General F. Sos. (large). Vol. IV. p. 536.

Musical F. Sos. Vol. IV. p. 545.

Parochial F. Sos. See Vol. IV. early part of our historical art. on F. Sos.; and p. 497.

Railway F. Sos. Vol. IV. p. 545.

Religious and School F. Sos. Vol. IV. p. 547.

Specially Authorized F. Sos. Vol. IV. p. 579.

Temperance F. Sos. Vol. IV. p. 550, and Vol. V. p. 115.

Trade or Class F. Sos. Vol. IV. p. 550.

Unregistered F. Sos. Vol. IV. p. 583.

To which must be added the following :

Bond Clubs.—These appear to have been formed extensively in England soon after the Norman Conquest. Their origin is stated to have been as follows: The Norman law required that all males of the age of 14 and upwards should find sureties responsible for their keeping the peace, and for the payment of a fine in case of transgression. Hence Bond Clubs were formed, being generally limited to the heads of ten families, who were bound one with another, either to produce any one of their Club who should offend against the law, or make pecuniary satisfaction for the offence.

The preceding was the first stage only. But when, by reason of good conduct, the money subscribed had accumulated, portions of it were used to meet the exigencies arising from sickness and other misfortunes, as floods, fires, etc., etc. The subject will be pursued under GILDS.

The system of providing *Militia Substitutes*, and of making an allowance during *Imprisonment for Debt*, savours of having descended from this class of asso. [IMPRISONMENT FOR DEBT, ALLOWANCE DURING.] [MILITIA SUBSTITUTES, PROVIDING OF.]

Broken-bone Clubs.—We have seen in the preceding review that F. Sos. for insuring against accidental injuries are comparatively common. Sir George Young, speaking in his Rep. of "Trade Clubs," says:

A more common shape assumed by this kind of Trade Club, in some occupations of peculiar hazard, is that of Broken-bone Clubs. I found one at *Exeter*, to which the subs. was 1*d.* weekly, and the sick pay 5*s.* weekly for 3 months, 2*s.* 6*d.* for 3 more, and then stopping. They had lately been obliged thus to limit the benefit; one member prior to that had been on the funds 10 years. . . . Another, among the Dockyard men at Devonport, was of a simpler kind: every man paid 1*d.* weekly so long as any member was laid up, and the whole was handed to, or divided among, the patients. In this case it was remarked that what with Dockyard allowance, sick-pay from a Club, perhaps from two, and Broken-bone pay, it was sometimes rather lucrative to break one's leg. "But then," it was added, "that is just what no one will do for money"; and for every other ailment but a broken bone this Club had no benefit to give.

Penny Clubs.—Mr. Neilson, in his evidence before the Lords Committee 1848, said in substance as follows:

The class of Sos. which appear to me to be of a very objectionable kind are the *Penny Sos.*—being that class of Sos. which make the Union or So. last for 1 year only. Arbitrary rates of contribution are made; and at the end of a year, after paying all the claims upon the So., the surplus is divided among the surviving members. In consequence of the injustice which would be practised upon the younger members by admitting older men into these Sos., there is a general regulation, that all persons above 40 or 45 years of age (the limit as to age varies in some Sos.) should not be eligible. I regard the estab. of such Sos. as impolitic, and in fact as destroying the real purpose for which Benefit Sos. were orig. intended: inasmuch as the old and infirm, for whom F. Sos. are most destined to do good, cannot avail themselves of them; and they certainly stand in the way of the estab. of better constituted Sos. [DIVIDING F. SOS.]

FRIENDLY SOS., VALUATIONS OF ASSETS AND LIABILITIES.—The importance of periodical valuations of this character in F. Sos. has been so often dwelt upon by writers whose works we have quoted in the preceding articles, and indeed is so obvious, that we do not propose to dwell upon it here at any length.

In Ratcliffe's several Reports (1850, 1862, and 1872), specimens of the more simple modes of arranging the data for such valuations are given.

1873.—In "Notes on F. Sos.," by Mr. Charles Hardwick, Editor of the *Odd Fellows Quarterly Mag.*, etc., etc., forming Appendix D. of the 3rd Rep. of the Royal Commission 1870, there is the following:

I have referred to a compulsory periodical valuation of the assets and liabilities as desirable for all classes of *assu. asso.*, by whatever name they may be called. The publication of this valuation in some such form as that insisted upon in Mr. Cave's Act [Life Assu. Cos. Act, 1870] regulating upper class cos., ought to be made imperative on all, in the interest of the general public, whose patronage is so solicited. As the M. U. has already voluntarily adopted this course, it is not very prob. that other well-conducted Sos. would offer very serious opposition.

I cannot see how the compulsory adoption of any specific financial T. of contributions and benefits can be brought successfully about by legislative action, at present at least. Some education of the masses on this subject is necessary as a preliminary condition of success. The periodical valuation, however, will materially aid in this direction. The public will eventually cease to patronize known insolvent Sos., and this will compel either financial adjustment or the winding-up alternative to those so situated.

The high fees of professional actuaries have hitherto, to a very large extent, stood in the way of the "periodical stock-taking" to which I have referred; but since the publication of the works compiled by Mr. Ratcliffe for the M. U., and my *Manual for Patrons and Members of F. Sos.* [1859, and 1869], a complete revolution has taken place in this respect. I confidently expect that between three and four thousand of our Lodges will be valued at an expense not exceeding one halfpenny per member. This is a cost the humblest can easily afford. . . .

1874.—Mr. Wm. Hatton, "Actuary," pub.: *A Treatise on F. Sos., with T. constructed from the Sickness and Mort. Experienced by Members of the Manchester Unity of Odd Fellows in passing through 1,321,048 Years of Life, being the largest Experience hitherto collected of F. Sos. in the U. K.* This will be found useful to the elementary student; but all its more material results are drawn from Mr. Ratcliffe's *Supplementary Rep.* 1872, already noticed.

1876.—The Actuarial Commission, appointed to prepare certain forms under the F. Sos. Act, 1875, and "to consider whether any, and if so what T. of sickness and mort. now extant may be recommended for temporary use by the Registrar, pending the preparation of T. under the new Act," in their (3rd) Rep., referred to more particularly in our historical art. on F. Sos. (this date), recommended the temporary adoption of rates of contribution based upon Mr. Ratcliffe's T. 1872 (already noticed in detail), Rural, Town, and City Districts combined. In furtherance of this view, they prepared the following T. in three parts:

TABLE OF CONTRIBUTIONS.—3 p.c. net.

Age next Birth-day.	TABLE No. 1.		TABLE No. 2.		TABLE No. 3.		
	Ann. Contributions payable by Weekly or Monthly Instalments to Provide a Sickness Allowance of £1 p. week.		Ann. Contributions payable by Weekly or Monthly Instalments to provide for a Deferred Annu. (or Superannuation Allowance) of £1 p. Week.		Ann. Contributions payable by Weekly or Monthly Instalments for an Assurance of £10 at Death.		
	Contributions and Allowance ceasing at age 65.	Contributions and Allowance ceasing at age 70.	Contributions to cease and Allowance to commence at age 65.	Contributions to cease and Allowance to commence at age 70.	Contributions payable throughout life.	Contributions ceasing at age 65.	Contributions ceasing at age 70.
18	£ s. d. 1 5 1	£ s. d. 1 8 0	£ s. d. 2 10 10	£ s. d. 1 6 6	£ s. d. 2 10	£ s. d. 3 0	£ s. d. 2 11
19	1 5 9	1 8 9	2 13 4	1 7 8	2 11	3 1	3 0
20	1 6 5	1 9 6	2 16 0	1 8 11	3 0	3 2	3 1
21	1 7 1	1 10 3	2 18 10	1 10 3	3 1	3 3	3 2
22	1 7 9	1 11 1	3 1 10	1 11 9	3 2	3 4	3 3
23	1 8 5	1 11 11	3 5 0	1 13 5	3 3	3 6	3 4
24	1 9 1	1 12 9	3 8 3	1 15 2	3 4	3 7	3 6
25	1 9 9	1 13 8	3 11 9	1 17 0	3 5	3 8	3 7
26	1 10 6	1 14 7	3 15 6	1 18 11	3 7	3 10	3 8
27	1 11 3	1 15 6	3 19 6	2 0 11	3 8	3 11	3 10
28	1 12 0	1 16 5	4 3 9	2 3 0	3 9	4 1	3 11
29	1 12 10	1 17 5	4 8 3	2 5 3	3 10	4 2	4 0
30	1 13 8	1 18 6	4 13 2	2 7 8	4 0	4 4	4 2
31	1 14 7	1 19 8	4 18 5	2 10 2	4 1	4 6	4 4
32	1 15 7	2 0 10	5 4 0	2 12 11	4 3	4 8	4 6
33	1 16 7	2 2 1	5 10 1	2 15 11	4 5	4 10	4 7
34	1 17 7	2 3 5	5 16 8	2 19 1	4 6	5 0	4 9
35	1 18 8	2 4 9	6 3 9	3 2 6	4 8	5 3	4 11
36	1 19 10	2 6 2	6 11 5	3 6 2	4 10	5 5	5 2
37	2 1 1	2 7 8	6 19 9	3 10 1	5 0	5 8	5 4
38	2 2 4	2 9 4	7 8 10	3 14 4	5 2	5 11	5 6
39	2 3 8	2 11 0	7 18 10	3 19 0	5 4	6 2	5 9
40	2 5 1	2 12 10	8 9 8	4 4 1	5 6	6 5	6 0
41	2 6 7	2 14 8	9 1 7	4 9 6	5 9	6 9	6 3
42	2 8 2	2 16 8	9 14 8	4 15 5	5 11	7 1	6 6
43	2 9 10	2 18 10	10 9 3	5 1 11	6 2	7 5	6 9
44	2 11 7	3 1 1	11 5 4	5 9 1	6 5	7 9	7 1
45	2 13 6	3 3 5	12 3 4	5 16 11	6 8	8 2	7 5

1. These T. are not applicable to Coopers' and Brewers' Labourers, Dock Labourers, Mariners, Miners, Plumbers and Lead Workers, Potters, Sawyers, Stonemasons, and Watermen, nor to persons engaged in any other occupation which, in the opinion of the committee of man. of a So., is considered unhealthy in their locality.

2. The T. do not contain any provision for expenses of management.

3. It is essential that the total funds of any So. adopting these T. be always invested at compound interest, at a rate not less than 3 p.c., so that if any portion of the fund is at the bank not earning int., or earning a lower rate of int. than 3 p.c., the other portion of the funds must be invested so as to yield a sufficient surplus beyond 3 p.c. to make up an average of at least 3 p.c. on the entire funds.

4. Provision should be made in the rules of any So. adopting these T., that the total sickness allowance for which a member should be allowed to subs. should not exceed three-fourths of his usual earnings; also that a member must remain off the sick list for a period of not less than 6 months before he can again claim sick pay.

The following further recommendations and observations are offered by the Actuarial Commission :

To provide for an assu. of £10 at the death of the wife of a member, we consider that the same rate of contribution should be charged as for an assu. of a similar amount at the death of the member.

We recommend that a provision be inserted in the rules of any So. adopting the rate of contribution for sickness allowance, to the effect that the allowance be reduced to half-pay after 12 months' full pay has been allowed; and shall be further reduced to quarter pay after 12 months half pay has been allowed.

This condition, although not taken into account in the calculation of the rates of contribution, is rendered advisable in order to make provision for the possibility of some of the members remaining on the sick list for a longer period than is provided for in the T. A fluctuation of this nature would have an untoward effect upon the finances of a So., when the number of members is not large enough to supply a steady basis for the operation of average.

They add :

We have recommended the *Manchester Unity T. of Sickness and Mort.* as a basis for rates of contribution; but we are of opinion that it would not be advisable to recommend any T. for the purpose of valuation. No doubt the *Manchester Unity T.* would be suitable for a very large number of Sos., but the actuary employed should be guided by the circumstances of each case, in selecting the proper T. to be used.

1877.—In Appendix C. of the Rep. of the Chief Registrar of F. Sos. for the year 1876, there is contained "Instructions to Public Valuers appointed under the F. Sos. Act," of which we think it will be advantageous to give certain portions in full detail :

3. The valuer may require that the particulars for valuation shall be supplied to him in such form as he may think fit, together with a copy of the rules for the time being of the So., and copies of the ann. returns, and also of the annual statements of account of the So.—where these are not identical with the ann. returns—for at least the 5 years next preceding the date up to which the valuation is to be made.

4. The valuer may ask for such further information as to the affairs of the So. as he may deem necessary for the purpose of his valuation.

5. In no valuation of a So.'s future sickness liabilities shall the total sickness p.a. at each age up to age 70 expected to be experienced be less than that given by "Ratcliffe's Sickness Experience for the years 1865-70 of the Manchester Unity of Oddfellows, Rural, Town and City Districts combined."

6. In the case of Sos. granting sick allowance beyond the age of 70, the valuer shall call attention, in his Report, to the principles on which he has valued this portion of the sickness liabilities, with special reference to the prob. effect of cases of prolonged sickness on the funds of the So.

7. In no valuation of a So.'s future sickness liabilities shall a higher rate of mort. at any age be employed than that given by "Ratcliffe's Mort. Experience" [before named].

8. In the case of Sos. having members engaged in occupations more than usually hazardous or injurious to health, or having members residing in localities known to be unhealthy, the valuer shall in his valuation make such allowance or allowances therefor, as regards conditions 5 and 6, as he may deem expedient, and shall call special attention thereto in his Rep. on the valuation.

9. The valuer may, in estimating the value of a So.'s liabilities under its assured benefits, use such a rate of int. as he may consider expedient; but when such rate or rates shall exceed 3 p.c., he shall, in his Rep. on the valuation, state fully the grounds on which a higher rate of int. is made use of.

10. No allowance is to be made for possible future profits arising from secessions unless the number of contributing members in the So., and the nature of the So.'s bus., be such as fully to justify an allowance being made; and the valuer shall in all such cases state in his Rep. what allowance has been made, and the grounds on which it is made.

11. The method of valuation must in no case have the effect of treating any of the So.'s assu. contracts as assets; in other words, the liability of the So. under its assu. contracts must in no case be treated as having a negative value.

12. The valuation Rep. must in all cases state distinctly what provision is made for future expenses of management; and the valuer shall state whether, in his opinion, judging from the experience of the So., such provision is adequate.

13. In making his Rep. on the valuation, the valuer shall in all cases specially call attention to the assumptions on which the valuation is based—particular care being exercised in this case where the number of members is small.

14. The valuer shall make his valuation and furnish to the So. the Rep. and abstract of valuation required by sec. 14 (1 f.) of the F. Sos. Act, 1875, within 3 calendar months after the necessary particulars have been supplied to him, unless there be just and sufficient reason for the delay.

If the valuer cannot complete the valuation within the period required, he is to hand the same to some other qualified valuer (15). The appointments only last from year to year (17). The scale of fees—of which we have already given an account in our historical art. (date 1877)—is to remain in force until the end of 1880 (18). The valuers are required to make themselves familiar with the provisions of the Act of 1875—especially with secs. 14 and 32. A list of the valuers already appointed—they are not to exceed 14 in number "at present"—has been already given in our historical art., 1877.

1878.—There was pub. at Brighton : *An Explanatory Treatise on the Valuation of F. Sos., with a full Description of the Method employed in the Calculations, with Examples, etc., Interest, Discount, and Present Value, their Application for the Purposes of Valuation ; Examples of Valuation of a F. So. at 3 and 4 p.c. Compound Int. ; and a Complete Set of T. for effecting Valuations at 4 p.c. A Commentary on Superannuation or Deferred Annuities ; also showing the Conditions on which existing solvent Sos. may with Safety make Arrangements for Members Exchanging Sick Benefits for Annuities, with Tables and Examples.* By Reuben Watson, Accountant, etc. He uses Ratcliffe's T. of Sickness and Mort.

FRIENDLY So. OF ANNUITANTS.—This project is stated to have been set on foot in Lond. on 12 April, 1771. It proposed to grant annu. on terms altogether inadequate. Some interested persons submitted the scheme to Dr. Price, and invited his opinion on its prospects. He replied under date "Newington Green, July 13, 1771," to the effect that the plan proposed was altogether impracticable. A general meeting of the founders was held at its offices, "No. 8, Dove Court, Lombard St.," on 26th Oct. same year, and it was agreed to dissolve the So. The announcement of the Directors to this effect, and also Dr. Price's letter, upon which the determination had been taken, together with some other details, are to be found *in extenso* in Dale's *Calculations*, etc., 1772, pp. 360-3.

FRIENDLY So. "FOR ASSU. OF MONEY UPON LIVES," etc., at Rainbow Coffee House in Cornhill.—This Asso. was founded in 1708, but underwent some reorganization in 1715. We shall give an outline of its plan under LIFE INS., HIST. OF.

FRIENDLY So. FOR BIRTH, MARRIAGE, AND SERVICE INS., at Black Swan, Shoreditch. —Founded 1710. Details will be given under MARRIAGE INS.

FRIENDLY So. OF DISSENTING MINISTERS IN SCOTLAND.—Founded in 1797, for the purpose of providing annu. to the widows and orphans of the members of the So. An account of this So. will be given under WIDOWS FUNDS.

FRIENDLY SOS. AND GENERAL GUARANTEE CO. LIM.—Founded in 1876, with an authorized cap. of £10,000, in shares of £1, for the following purposes : (a.) To give security, by the granting of pol. or otherwise, for the proper performance of the duties of any officer of any So. regulated by the F. Sos. Act 1875 ; and for the rendering by such officer of a just and true account of all moneys received and paid by him on account of such So., at such times as the rules appoint, or as the management require ; and for the payment by such officer of all sums due from him to the So. (b.) To guarantee in like manner the fidelity and due performance of their duties by persons employed by Gov., Cos., and others in positions of trust or confidence ; and the proper accounting for and application by them of all moneys, securities, and other property coming to their hands. (c.) To guarantee existing sureties from loss in respect of their suretyship. (d.) To guarantee the payment of rent reserved by leases, agreements or otherwise, and the due performance of covenants, contracts, engagements, and obligations. (e.) To take counter or other securities in respect of any risk or liability which the Co. may have to incur. (f.) To carry on guarantee bus. generally. Many of these objects meet admitted requirements.

FRIENDLY So. FOR WIDOWS.—Believed to have been founded about 1698, by or with the assistance of Daniel De Foe, who, in his *Essay on Projects*, 1697, had advocated the founding of such an inst., and in a letter to his friend Dalby Thomas soon after he says : "since we have met with so much success already in the practice of it : I mean the *F. So. for Widows*, of which you have been pleased to be a Governor."

The precise ending of this So. we cannot trace ; but in the public newspapers of 8 Nov. 1720, there appeared the following notice :

You are desired to meet some Persons lately belonging to the *Friendly So.*, whose Office was kept at the "Blue Leg" in Bow Lane, on Monday, the 14th inst. at 3 in the afternoon, at Sunderland's Coffee House, Warwick Lane, who will continue there till 6. Enquire for No. three.

FRIENDLY UNION So., THE.—Founded in 1790. This So. was composed mainly of the chief and second officers of the late Hon. East India Co.'s Maritime Service. The objects of the So. appear to have been in part convivial, and in part benevolent—at all events, that is the shape events subsequently took, as will be seen by the facts which follow.

1811.—The above-named united with the *Sociable So.*, which had been founded for like objects in 1802, and the same were henceforward carried on under the title of *The Friendly Union*. The objects of the new So. appeared to be to combine benevolence with conviviality, and the preamble of their general rules stated that the members, "actuated with a mutual desire of establishing a bond of union in the service, of the ties of brotherly love, harmony, and social enjoyment, have, in addition to these, the benevolent object of establishing a fund wherewith to relieve the distressed relatives of deceased members, the late *Friendly Union* agreeing to bring into the united So. their funds and each member of the *Sociable So.* to subscribe agreeably to the rules of the new Society." The general rules provided that the new So. should consist of the existing members of the amalgamating Sos., and that captains and chief or second mates of the regular or extra ships of the East India Co. might be admitted on payment of 5 guineas, and should also pay 5 guineas after 3 successive voyages, and that members at home should subscribe 1 guinea ann.—half to be appropriated to the fund, and the other half to the convivial meeting, and after a number of rules, from which it appeared that it was in the contem-

plation of the members that some portion of the funds should be applied in the *relief of the families of deceased members by the grant of annu. or otherwise*, without giving any very intelligible rules for the purpose, and after providing for the election of a committee, the general rules concluded by enacting: "no business to be agitated at or after dinner." There were also a set of "rules for the convivial meetings," providing that the So. should hold its first meeting "the Tuesday prior to the first ship's coming afloat, and continue to meet every fortnight until the end of March. Dinner to be ordered for 12 persons, to be on the table at half-past 4, the bill to be called at half-past 6; fruit and biscuit not to exceed 6d. each; the collection to be 7s. 6d. each, and the deficiency to be taken from the fund."

1833.—The charter under which the East India Co. possessed the exclusive right of trading to India and China expired, and the maritime trading service of the Co. came to an end, at once limiting the number of the members of the So., without the prob. of increase. Various alterations were then made in the rules, and *further annuities and gratuities were granted*.

1870.—It appeared that the funds of the So. had increased, and that considerable sums had from time to time been expended in objects of benevolence *by the grant of annu. and gratuities to various distressed relatives of deceased members*. As the members gradually began to die out, great difficulty was experienced in holding meetings, and it was resolved that annuities should be purchased for the then annuitants. Accordingly, this year, a sum of £4000 Consols was sold out and invested in the purchase of annu., and a further sum of £1000 Consols was sold to return to the then present members the amounts they had actually subscribed. The then members were 17 in number, and after these payments, and after the purchase of a further annuity, there still remained a surplus in the hands of the trustees of the So. amounting to £2214 os. 4d.

1875.—Doubts being entertained as to whether the remaining fund should be distributed among the surviving members of the So., or whether it was properly applicable to charitable purposes only, the trustees paid the money into Court, and presented a petition for the settlement of a scheme for future management of the funds. The Vice-Chancellor, after commenting upon the difficulties attending the case, made an order referring it to Chambers, to consider in what manner the fund ought to be applied. We assume the So. practically came to an end at this date. [SOCIAL So.] [WIDOWS FUNDS.]

FRIENDS' PROVIDENT INSTITUTION.—"A Mut. Assu. Asso. for the So. of Friends and those connected therewith," founded at Bradford (Yorks) in 1832, "with a view to raise by subs. amongst the members thereof, or by voluntary contributions or donations, a fund for the mut. relief and maintenance of such members, their wives, or children, or other relations." We here quote from the original rules and regulations of the So.

There have been various traditions regarding the origin of this most flourishing Inst. ; but fortunately we have before us a record of the actual facts as prepared by the founders at the time : and therefore not open to the charge of afterthought. We shall follow the language of the record.

The proposal for this estab. was first laid before a large Committee of Friends, charged with the care and disposal of the legacy and other funds for the benefit of the poorer members, of [p at] the Quarterly Meeting of York. It was next submitted to a meeting of Friends from various parts of the kingdom, during the gen. meeting at Ackworth [Yorks], in the year 1831. Here the matter was pretty fully discussed ; the plan was approved ; a prosp. was agreed to be pub. ; and the Friends of Yorkshire were urged to take charge of the estab.

To render it safe and effective, it was necessary that such an Asso. should contain a numerous body of members ; and it was therefore determined not to confine its benefits to any particular district of the island. The circulation of the prosp. led to numerous communications from various parts of the country, expressive of much approbation of the plan, and much interest in the proposed estab. Thus encouraged, the Friends of Yorkshire proceeded to make the requisite arrangements.

The first step they took was to obtain accurate returns from the Registers of Friends in various parts of the kingdom, so as to ascertain *the duration of life of that class of persons who were likely to be the objects of the estab.* These returns, extending over a period of 20 years, were obtained from districts in which the largest bodies of Friends resided, engaged in the various pursuits of Agriculture, Manufactures, and Commerce. The contributing districts were London and Middlesex, Yorkshire, Lancashire, Essex, and Westmorland.

The T. drawn from these returns [of which we shall give full details under FRIENDS (So. OF), VITAL STATIS. OF] exhibit an average duration of life greater than that which is considered the average of the nation. It nearly corresponds with the actual experience of the *Equitable Ins. Office*, and of the Government Annuitants.

The actual founder of the So. is understood to have been the late Mr. Joseph Marsh ; who, however, seems never to have held any appointment in the Inst.—other than that of London agent—and who three years later became the founder of the *National Provident*, in Lond. We have heard him narrate his early rides, with saddle-bags,

through the more remote districts of Yorkshire, and the other northern counties of Eng., in search of proposals.

The first Actuary of the So. was Mr. W. L. Newman, the then Actuary of the *Yorkshire Assu. Office*. He prepared the T. of prems. as deduced from the data already referred to. The prosp. says :

... In fixing the principles on which the T. of terms should be drawn, the Committee have been most anxious to act on the principle of *security to the party insuring*. As these persons are in fact the sole partners in the concern, and must ultimately share all the profits, it is obviously their interest that the terms of ins. should be amply sufficient to secure, as far as any human arrangements can, the various objects which the individuals may contemplate who make use of the Inst.

If, as there is every reason to expect, there should, in a few years, be an accumulation of cap., it will be appropriated to the insurers, and will either diminish their regular payments, or obtain for them larger sums than the Inst. had originally engaged to pay.

Sos. with similar objects to the present have frequently, in the outset, proposed too advantageous terms ; and the consequence has been the most serious disappointment to the insuring parties. From this fatal error the Directors feel confident that the T. of the *F. Prov. Inst.* are free ; and they believe that in few instances have such accurate materials been forthcoming on which to ground the proceedings of such an Inst.

The rates of prem. actually charged were but a trifle lower than those charged by many respectable Life Offices at that date.

It is further stated, that in view of still greater security, "or rather to give satisfaction to persons not acquainted with the principles on which such Inst. are at present founded," a number of Friends had agreed to form a *Guarantee Fund*—"each person being responsible for the sum attached to his name during his life, or until such time as the Inst. shall have declared itself in possession of a surplus fund. *Upwards of £10,000 have been already subs., and a considerable add. is expected.*"

It was further announced : "Donations towards defraying the outfit of the estab. will be received. Subs. of £50 to the Guarantee Fund, and donors of £2 and upwards, are hon. members of the Inst." From this it is clear that the notion of a Benevolent Inst. was to some extent in the minds of the founders. The T. for small deferred annuities, etc., confirm this view ; as also one or two clauses from the rules, to be quoted.

The Inst. was enrolled under the Friendly Sos. Acts. There is little in the rules and regulations calling for any special comment. "The Sec. and Local Agents shall severally receive such salary or compensation as the board may deem an equivalent for their respective services" (Rule 17)—this is all that related to the important question of staff appointments. There was no mention of remuneration to the directors. The directors might issue either general or special "nominee" pol. (25 and 26). "If any member shall be convicted of felony, or shall enter into the Army or Navy, or shall by any artful or fraudulent misrepresentation obtain, or attempt to obtain, any allowance benefit or money from the funds of this Inst., he or she shall, upon due proof to the satisfaction of not less than 5 directors at a gen. meeting assembled, *be for ever excluded from this Inst.* ; and all his or her interest and moneys therein shall be forfeited for the use thereof," with power, however, to the directors to make allowance to wife, children, or relations, where deemed expedient (36). In cases of "Insanity, etc.," where no legal discharge could be obtained for moneys due, the treasurer might be empowered by the board to apply the proceeds of any endow. or assu. in such manner as might be deemed most conducive to the benefit of any member or nominee so circumstanced (40) ; and lastly :

42. One additional contribution, equal in amount to a quarterly contribution, shall be required from every member subject to the payment of periodical contributions, in case the directors, not being less than 5 in number at any special gen. meeting assembled, *shall declare the surplus fund to be insufficient for discharging the expenses of management*. Every such add. contribution shall be paid on or before the last day in the month next following the day on which such special gen. meeting shall have directed a call for the same to be made ; and every member shall, in case of non-payment, be subject to the fines and forfeitures imposed by the rules of this Inst. for periodical contributions in arrear.

The three members signing the rules were John Hustler, Samuel Gurney, and Samuel Tuke ; with Benjamin Ecroyd as Sec.

The introduction to the rules and regulations, and which in fact constituted the working prosp. of the Inst., embodied the following para. :

The *F. Prov.* is chiefly designed for the benefit of those who wish to sacrifice a portion of their present income, to provide for the wants of a family in the event of their decease ; or for their own wants in more advanced age. . . . The man who daily expends upon himself more than is necessary for his proper sustenance, and takes no thought of the period of age and decrepitude which is likely soon or later to befall him, is deficient in the prudence which is the handmaid of every virtue. There are, however, considerable difficulties in the way of those who have but small means, in making that provision for the vicissitudes of life, to which a feeling of a virtuous independence would prompt them.

To meet these difficulties is the primary object of the Inst. now estab. by the So. of Friends. *Such an estab. has long been thought highly desirable by some of its most judicious members*. They have frequently observed that those who have been for a long period in good situations, either in our public estab. or in private families, when no longer able to support themselves by their personal exertions, are without any resources to prevent them from sinking into that state of dependence upon their friends, which, though by no means discreditable when necessary, ought to be felt to be so in those cases in which a prudent self-denial, in the periods of health and vigour, might have gained for them an independent subsistence in advanced age. The class now referred to is, however, far from being the only one likely to be benefited by the present estab. : it is apprehended that it will be eminently serviceable to those who are possessed of considerable incomes, but who, in cases of their early decease, would leave their families in a state of destitution ; and these are

frequently the circumstances of persons engaged in professions or bus.: many of whom could spare something out of their incomes that would not abridge them of any necessary comfort.

The cheapest way of providing for these objects is to unite with others, so that each individual may subject himself to a small deprivation, in order that none of them may be subjected to a great suffering. The benefit thus obtained is of course *contingent upon life*. He upon whom the contingency does not fall does not get his money back again, nor does he get for it any visible or tangible benefit; but he obtains the best security he is able against future suffering; and the consciousness of that security must be at all times a source of satisfaction. He upon whom the contingency does fall, gets in hard money all that those who have been exempted from it have paid: and is thus enabled to sustain or to contemplate an event which would otherwise be most distressing.

Here the case is put with remarkable frankness; and the inducements are none the less apparent. The objections are then grappled with in the same spirit of plain dealing:

There are two ideas by way of objection which are apt to present themselves to the conscientious mind, on a hasty consideration of a plan like the present. The first is, that it implies a *Distrust in Providence*;—the second, that it bears somewhat the character of a *Lottery*. Further consideration will, it is apprehended, show the fallacy of both these ideas: it will be seen that the plan bears rather the character of a community of property, than of any selfish, hazardous, or distrustful speculation. It is the compact of a number of persons who agree together to put what they can spare into a common stock for their common benefit.

He who subscribes for an annuity and lives to old age, derives benefit from the payments of those who have not lived to want that provision: thus all contribute, and those who live to want receive the benefit; but it must be remembered that the whole contributions are likely to go towards improving the circumstances of those whose own slender means of saving would have been inadequate to provide for the wants of old age, or the necessities of their families. It may therefore be asserted that the Inst. bears at once the character of *prudence and disinterestedness*.

It may be asked why the So. of Friends should form a distinct Asso. for these objects. We answer that the general circumstances and character of the So. of Friends afford several reasons why it should be so. *First*, the prob. of life among its members differs somewhat from that of the world at large. *Secondly*, an Inst. conducted by those of their own profession will be more satisfactory to many persons than one in which the managers are wholly strangers to them. And *thirdly*, its being so conducted will necessarily bring the subject more immediately under the notice of those persons, who it is so desirable should avail themselves of it.

The So. was thus fairly set on foot, founded in sagacity and honest intentions, and was almost certain from the first to become a success.

During the first year and half 383 pol. were issued—but the limit for which such pol. could then be issued was £200.

1835.—At a Special Gen. Meeting held this year, the rules and regulations were revised in several particulars; none of any great importance, except that of a charge for "Entrance Money" not exceeding £2 per member.

1837.—There was no valuation or division of profits made this year. All was carried forward to the next quinquennium.

1851.—During the 19 years of the So.'s operations ending at this date, the receipts amounted to £602,058 2s. 1d.; while the expenses during the same period were only £14,153 18s. 7d.—being an average of £744 18s. 10d. p.a.; *vide* evidence of Mr. Pateman before Select Parl. Committee on Assu. Asso. which sat in 1853. See also *Assu. Mag.* vol. iii. p. 359.

1852.—The So. at this date had 2079 pol. in force, their average amount being £700. The accumulated fund amounted to £350,000, of which £96,000 was invested with the Commissioners of the National Debt at the advantageous rate of int. secured under the provisions of the Friendly Sos. Acts. The limit of ins. upon any one life was £2000.

This was one of the 5 Sos. specifically referred to in the petition before Parl. this year, of which we have given an account under FRIENDLY SOS. at this date.

1867.—At the investigation of the affairs of the So. at this date, a very unusual incident presented itself—unusual in Ins. Asso. and Annuity Sos. generally—namely, that there was found to be a surplus resulting from the annu. operations. The Rep. says:

In the 3 principal annu. classes Nos. I, II. and III., the excess of assets over liabilities proved to be so considerable as to warrant the Board in devoting a portion of it to the benefit of the annuitants, by permanently increasing the amounts of the several annuities. Add. varying from 3 to 12 p.c. of the ann. sums orig. subs. for were accordingly made; the average increase being about 7 p.c. *The Directors believe this to be the first instance in which an Assu. Co. has divided profits amongst its ordinary annuitants.*

As to the magnitude of the operations of this branch of the So.'s bus., see T. towards end of this art.

1869.—The Sec. of the So. at this date, Mr. John Joseph Dymond, commenced an inquiry into the subject of the Extra Rates charged for Travelling and Residence beyond the limits of Europe—a subject upon which great diversity of practice then existed. See LIMITS OF RESIDENCE AND TRAVEL.

1871.—An entirely new set of rules and regulations were adopted this year; and the Inst. was stated to be carried on under the provisions of the Friendly Sos. Act, 17 & 18 Vict. c. 56 (1854). There are several variations in the rules which may be briefly noted: The members may be male or female, either of full age or minors; the latter only to be insured with consent of parents or guardians—but when insured to be "members." The term "member" not to include hon. members, except where so stated specifically (Rule 2). "All directors and trustees shall be males" (3). Remuneration of directors to be voted by board (as previously); but Sec. and other officers employed by board to receive such salary or compensation "as the board may deem an equivalent for their respective

services" (14). A "Committee of Conference" to be appointed at each ann. gen. meeting, to unite with the board in deciding upon directors and auditors for ensuing year (15). Division of surplus to take place whenever it shall appear to the directors that the stock and funds have accumulated, so as to be more than sufficient to discharge or provide for all claims, etc. (21). Suicide not to vitiate claim unless it occurs within 3 years of date of pol. (23). "If any change in the occupation, abode or condition of any member, or any other circumstance, should render it equitable or expedient in the judgment of the board that this inst. should consent and agree to vary or determine any assu., upon the application of the person or persons entitled thereto," the board may do so, either grant new assu. or purchase interest in old one (26). All former "rules" not comprised in preceding code repealed (31).

1872.—From the return of the periodical valuation made up to the 20th November this year, the following details are drawn:

The principles of valuation and distribution were originally determined by resolution of the Board of Directors, under the advice of the Consulting Act. [Mr. Charles Ansell]. The T. of Mort. used in the valuation is that deduced from the experience of the So. of Friends, at the time of the foundation of the So.; and from which its rates of premium were derived. [FRIENDS (So. OF), V. STATIS. OF.] The rate of int. assumed is 3 p.c. "The rate of mort. assumed in the T. of prems. is greater than is found by experience to occur; and the rate of int. assumed is lower than that which is realized. From these sources profits are mainly derived." "Provision for future expenses is made in the sum set aside as the value of the assurances; the amount reserved as net liability being equal to the single prems. which would *now* be charged for the respective assurances, less the value of the future prems. receivable." All pol. in force at date of valuation are entitled to participation. There are no "without profit" pol.; and no re-insurances.

The So. then had 520 annuity contracts in force, of which 473, involving an ann. payment of £12,866, were immediate; 44, ann. payment £1582, deferred; and 3, ann. payment £75, contingent.

The average rate of int. realized on the life fund during the quinquennium had ranged from £4 12s. 3d. in 1868, gradually decreasing to £4 10s. 10d. in 1872.

The method pursued in calculating the surrender values of life pol. is to ascertain their actual value upon the basis of the T. of prems. in use, and to deduct therefrom an amount equivalent to 20 p.c. of such value. Bonus add. are separately valued for surrender on the same plan. Surrender value for endow. pol. is calculated upon the basis of the accumulated prems., with a deduction therefrom of 15 p.c.

No bus. is effected at other than European rates. The manner of dealing with pol. on lives esteemed to be other than first class is by charging "extra prems." In the valuation of liabilities the extra prems. receivable on these policies are not taken into account.

1874.—In the Rep. for the year ending 20th Nov. it was stated that an inquiry into the comparative mort. amongst lives assured as "first class," and those upon which extra prem. have been charged, had been completed. "The investigation has extended over the experience of the Inst., for the period of 38 years, from its foundation to the end of the year 1870. The results show that though the bus. transacted in assuring lives regarded as not admissible at the ordin. rates of prem. has been conducted with perfect safety, the add. prems. charged have been fully justified by the increased risk: the amount of surplus of profits realized having been less on the extra-rated assu. than on those taken at the ordinary rates of prem. [EXTRA PREMS.]

The leading financial features of the So.—which in every respect is first class—are shown in the following T., denoting the progress of the So. at quinquennial periods:

New Pol. issued in Quinquennium.		Total Income 5 years.	No. of Pol. in force at end of year.	Life Assu. in force, with Bonus at end of year.	Current Annu. paid in 5 years.	Life and Annuity Funds.	Surplus Distributed on Life Assu.	Total Death Claims Paid up to Date.
		£		£	£	£	£	
1837	1174	84,322	1028	...	3,317	63,913	Nil	13,300
1842	645	141,808	1357	550,031	14,419	151,317	18,866	38,699
1847	834	184,594	1938	825,887	20,813	258,157	37,327	76,170
1852	953	249,338	2531	1,233,324	29,369	388,712	57,485	134,091
1857	980	311,150	3077	1,611,166	39,516	523,452	75,000	229,963
1862	997	379,104	3547	1,914,567	45,319	670,472	91,883	378,423
1867	1177	444,964	4045	2,437,352	49,538	831,181	126,830	568,745
1872	1501	601,872	5038	3,323,207	56,238	1,110,781	183,263	785,928
1877	1566	707,035	5776	4,020,942	64,432	1,358,205	216,786	1,120,905

The annuity feature of this So. is a marked one—see col. 6. We have drawn attention to a very unusual incident in connexion with it under date 1867.

The principal officers of the Co. have been Mr. Benj. Ecroyd, who was Sec. from the commencement of the So. down to his death in 1857; he was succeeded by the present

Sec., Mr. John Joseph Dymond, F.I.A. The first Consulting Act. was Mr. W. L. Newman, of York. He was succeeded in 1839 by Mr. Charles Ansell, F.R.S., who held the position until 1870.

FRIEND'S REFERENCE.—In the “application” or “proposal” for *Life Ins.* it is customary to require the name and address of two personal friends of the proposer, to whom reference can be made for confidential information regarding health and habits.

The practice prob. arose in the custom of having, in the early days of *Life Ins.*, all persons seeking ins. personally introduced by a member, usually a director, who stood in some degree responsible for his eligibility, etc. Hence the life was proposed and seconded as suitable: for in these early times there was as yet no medical examination. [MEDICAL EXAMINATION.]

As the custom of personal attendance before the Board died out—which it almost necessarily did with the expansion of the business—the alternative of inquiry by letter of interrogatory came into operation.

In practice it is often asked, what is the good of these reference forms? They are to personal friends of the proposer—is it likely therefore that any damaging revelations will be made? May it not rather be that “friends” will seek to advance the cause of him who nominates them, instead of the interest of the office: and that therefore their statements may be rather misleading than otherwise. This is too often the case; but it is not always so. We recall cases in which hints of great value have been so obtained; and even the negative incident of friends *not returning* the form answered, may sometimes be very suggestive of further inquiry. We think therefore the form should be sent.

The skilful agent knows how to make this initiatory step lead up to obtaining the proposal of the “friend”; while he again gives reference to other friends, and so extends the “opportunities”!

Dr. Adams Allen, M.D., in his *Medical Examinations for Life Ins.* (1869), says hereon (pp. 62-3):

There may be circumstances affecting the prospects of longevity which the applicant is either ignorant of, or wilfully withholds. Thus habits of *intemperance* are most frequently of all denied by the party himself, and these may be made known by his acquaintances. The solicitor [agent] ought not to neglect inquiry upon this point, and submit to the examiner the friends' certificate.

Again, the applicant may have had “fits”—epileptic or apoplectic seizure, etc., the real significance of which may, for prudential or other reasons, have been withheld from his knowledge. For these and similar reasons, the corroborative evidence thus gained should be laid before the examiner.

There is now the legal aspect of the “friend's” position to be considered—and here we turn to Mr. Bunyon. He says (*Law of Life Assu.* 1868, p. 35):

It was formerly considered that the referees were necessarily the agents of the party proposing the ins.; and their statements, representations made on his behalf—upon the truth of which the validity of the contract depended. At the same time a distinction was taken, and a limit placed upon the agency, in considering that the referee, not being employed to effect the ins., but simply referred to, was only to a limited extent the agent of the proposer; and, although bound to *reply* fully and truly to all questions put to him, *was not obliged* to volunteer information, however material in his estimation, which was not required or pointed at by any questions, either particular or general, proposed by the insurers.

The position that the referees, and particularly the person whose life is proposed for ins., are the agents *pro tanto* of the proposer, is not without some foundation of natural justice: since the latter especially is usually interested in obtaining the pol.; and all in practice give the most favourable answers which they conscientiously can to facilitate its issue. They therefore do in a certain sense act, and consider themselves to act, on behalf of the proposer. On the other hand it is urged that all that the latter can do is to refer to those persons best qualified to give information, and that it is the business of the ins. office to test the evidence offered; and that it is unjust to hold the proposer accountable either for negligence on the part of the office, or frauds on the part of the referees, of which he was wholly innocent.

While the earlier cases . . . upheld the former view, the contrary has now been decided in a recent leading case [*Wheelton v. Hardisty*], and that with such unanimity on the part of the judges both in the Exchequer Chamber, and in the Court below, as to have definitively overruled the former authorities. . . .

Should the referee indeed make a wilfully untrue statement, or collude with the party making the proposal, he may, although not personally interested in the contract, render himself liable to an action if loss should ensue; for if a man will wickedly assert that which he knows to be false, and thereby draws his neighbour into a heavy loss, even though it be under the specious pretence of serving his friend, he makes himself liable for the damage—*ausis talibus istis non jura subserviunt*, and that even if no fraud was intended him. In order to constitute moral fraud in a representation, it is not moreover necessary that it should be false to the knowledge of the party making it; if untrue in fact, and not believed to be true, and made for a fraudulent purpose, it is both a legal and a moral fraud.

A statement false in fact, but not known to be so by the party making it, or made with intent to deceive, but on the contrary believed to be correct, will not render him liable in an action, although it may have induced the insurers to undertake the ins., and they may have suffered pecuniary loss thereby: since to support an action for deceit the scienter must be proved.

This liability has not, however, it is believed, ever been enforced in practice, and could only be so in some very exceptional case, when a loss was actually sustained; as where the ins. moneys had been paid before the fraud was discovered, and could not be recovered from the assured. In the event of a conspiracy to defraud the Co., all parties implicated might be liable to an indictment, but that would be a criminal proceeding.

The principal English cases upon the subject are: *Lindenau v. Desborough*, 8 B. & C. 586; *Maynard v. Rhode*, 5 Dowl. & Ry. 266; *Huckman v. Fernie*, 3 M. & W. 505; *Wheelton v. Hardisty*, 8 El. & Bl. 232; *Pasley v. Freeman*, 3 T.R. 51; *Whitmore v. Mackeson*, 16 Beav. 126; *Watson v. Poulson*, 15 Jur. 1111 Exch.; *Taylor v. Ashton*, 11 M. & W. 415; *Shrewsbury v. Blount*, 2 M. & G. 475; *Rawlings v. Bell*, 1 C. B. 951;

Chancellor v. Lopus, 1 Smith's Leading Cases, 77. In Scotland there is the case of *Forbes v. Edinburgh Life*, 10 Ct. of Sess. Cas. 451; s.c. 7 Fac. Col. 351. In Ireland *Rose v. Star Ins. Co.*, 2 Irish Jurist O.S. 206.

In the United States the question does not seem to have been raised in any case outside the State of N. Y.—there in the case of *Rawls v. American Mut. Life*, 27 N. Y. 282, “though it has been assumed elsewhere that the applicant is bound by the answers of the referee, who is treated as his agent.” Mr. Bliss, in his able treatise on the *Law of Life Ins.* (2nd ed. 1874, p. 137), says:

It would seem upon principle that if an applicant for ins. refers the Co. to some third person, under such circumstances as to show that he intends the Co. to obtain from such person certain information, he makes that person his agent so far as relates to such information, and is bound by his answers. Thus if the question is, “name some acquaintance to whom we can apply for information in reference to yourself,” it would seem that by naming such a person he makes him his agent in giving such information. But a mere stating in reply to a question, that the person named is his medical attendant, does not in any way make the latter his agent. There should be something in the nature of an express or implied authority to apply to the person named; and that authority is not to be found in the mere giving of a name in reply to a question, unless that question is so framed as to indicate an intention to apply to the third person.

The distinction here made seems a very sound one.

Fidelity Ins.—It is to be remembered that in this now important branch of Ins. bus. the practice of referring to “some one who has known him”—the applicant for ins., is very general; and here indeed habits, as affecting honesty, are the subject of inquiry. The effect of misrepresentation in a case of this kind may be almost more direct than is the case of Life Ins. Here there is usually the important additional reference to the “former employer”; and the direct question is put as to relationship, or interest. We are not aware that any case has ever come before our Courts regarding the liability of referees in this connexion. [FIDELITY INS., PRACTICE OF.]

FRIEND'S REPORT.—This is technically the document or form obtained from the “friend referred to.”

FRIENDS (So. OF), VITAL STATISTICS OF.—There has prevailed for a long time a degree of interest amounting almost to curiosity regarding the actual longevity of this body. Very conflicting statements have been put forward, sometimes on very slender authority: so that on the one hand there has been a general belief that the duration of life is very much greater in this sect than among the gen. pop.; while on the other hand it has been asserted that although many of its members live to very advanced ages, still at the younger ages, and at some other periods of life, the mort. was much greater than that prevailing among the gen. pop.: so that over the whole period of life the rate of mort. was rather greater than less than that of the community at large. This, and some other points, we shall endeavour to make plain in the general review which follows.

1776.—The first actual obs. upon the longevity of the So. of Friends are those recorded by Dr. Thomas Percival, M.D., of Manchester, in his *Essays on Pop.*—orig. contributed to *Phil. Trans.*—but pub. in separate form under this date. It occurred to this learned investigator that the principles and manners of this body, although often made the subjects of illiberal censure and ridicule, might afford them advantages over other bodies of men, with respect to the duration of life. The diligence, cleanliness, temperance, and composure of mind by which the members of this So. were distinguished, in towns as well as in the country, might reasonably, he thought, be supposed to contribute to health and longevity. And as there were no persons among them in abject poverty, and few immoderately rich, this more equal distribution should lessen the sources of disease, and furnish every individual under it with the necessary means of relief. These considerations excited his curiosity to know the proportion of deaths among the Quakers of Manchester; and he was furnished by Mr. Routh, a member of the body there, with the following particulars.

The So. there consisted of 81 males and 84 females—54 married persons, 9 widowers, 7 widows, and 48 persons under 15 years of age. The births during the preceding 7 years had amounted to 34, and the burials to 47—about 1 in 24 therefore died annually: whereas the proportion of deaths among the inhabitants of the town at large was 1 in 28. This difference, which is directly the reverse of what had been anticipated, Dr. Percival endeavoured to account for by supposing that the Quakers had few or no accessions to their numbers by new settlers or new comers during the 7 years under review. In the general pop. the case was otherwise.

1816.—Mr. John Weyland, jun., F.R.S., in his *Principles of Pop. and Production*, pub. this year, reviews the results of Dr. Percival's investigation. He did not admit that “the want of vivacity of the people of this sect,” and “the sedentary lives of their females,” tended materially to shorten the period of their existence; he thought he found an entire solution of the state of things disclosed by Dr. Percival's inquiry, in the evils of Town Life—upon which he was as emphatic as his able predecessor Dr. Price. He exclaims:

What then remains but that we come to the conclusion, that the causes which shorten the period of human life in towns, however they may sometimes be aggravated by vice, are fully sufficient, without any such aggravation, to produce all the effects contended for in this treatise, and to render the inhabitants of towns—supposing they conducted themselves as temperately and as virtuously as Quakers, a non-reproductive part of the pop. of the State. (p. 422.)

1830.—Mr. Robert Rankin pub. a series of Mort. T. relating to the City of Bristol, and amongst these was one showing the "Probabilities and Expectations" of life among the So. of Friends in that city. The number under observation was only 264, but the regularity of the results exhibited is most remarkable. Mr. Rankin says :

This T. contains a lesson of inestimable value, for it teaches us how to extend human existence and augment its happiness. The moral habits for which the members of the So. of Friends are proverbially eminent, tend as certainly to the prolongation and enjoyment of life as their opposites tend to abridge and embitter it. This fact estab. in every rational mind, is corroborated by the prob. and expect. now before us, which for the following reasons may be considered as a close approximation to the truth: namely, the uniformity in the deaths recorded in the So.'s register—which, as may be supposed, is kept with peculiar regularity and correctness—both as to the ann. number and the respective ages, for a long series of years; the exemption of this class from military service; its general avoidance of all hazardous and unhealthy occupations; the indisposition to migration; and the immaterial fluctuation of its numbers.

Here follows the T.

Probabilities and Expectations of Life among the So. of Friends in Bristol.

Age.	Living.	Decre- ment.	Expectation.	Age.	Living.	Decre- ment.	Expectation.	Age.	Living.	Decre- ment.	Expectation.
0	264	37	40'40	31	155	1	32'55	61	95	4	13'16
1	227	13	45'90	32	154	2	31'76	62	91	4	12'72
2	214	9	47'66	33	152	2	31'17	63	87	4	12'28
3	205	4	48'73	34	150	2	30'58	64	83	4	11'85
4	201	3	48'69	35	148	2	29'99	65	79	4	11'42
5	198	3	48'42	36	146	2	29'40	66	75	4	11'00
6	195	3	48'15	37	144	2	28'79	67	71	4	10'60
7	192	3	47'00	38	142	2	28'19	68	67	4	10'20
8	189	3	47'65	39	140	2	27'58	69	63	4	9'82
9	186	1	47'41	40	138	2	26'98	70	59	4	9'45
10	185	1	46'67	41	136	1	26'37	71	55	3	9'10
11	184	1	45'92	42	135	1	25'56	72	52	3	8'60
12	183	1	45'16	43	134	1	24'70	73	49	3	8'09
13	182	1	44'41	44	133	2	23'93	74	46	3	7'59
14	181	1	43'65	45	131	3	23'29	75	43	3	7'08
15	180	1	42'90	46	128	3	22'82	76	40	3	6'57
16	179	1	42'13	47	125	3	22'35	77	37	3	6'07
17	178	1	41'37	48	122	3	21'90	78	34	3	5'56
18	177	2	40'59	49	119	3	21'43	79	31	3	5'05
19	175	2	40'05	50	116	1	20'97	80	28	3	4'54
20	173	2	39'51	51	115	1	20'15	81	25	4	4'02
21	171	2	38'97	52	114	1	19'32	82	21	4	3'69
22	169	2	38'42	53	113	2	18'49	83	17	3	3'44
23	167	2	37'88	54	111	2	17'81	84	14	3	3'07
24	165	2	37'33	55	109	2	17'13	85	11	2	2'77
25	163	2	36'78	56	107	2	16'44	86	9	2	2'28
26	161	2	36'23	57	105	2	16'75	87	7	2	1'78
27	159	1	35'62	58	103	2	15'04	88	5	2	1'30
28	158	1	34'90	59	101	2	14'33	89	3	2	.83
29	157	1	34'12	60	99	4	13'61	90	1	1	.50
30	156	1	33'34								

1831.—A movement which eventuated in the estab. of the *Friends Provident Inst.* at Bradford (Yorks) was set on foot this year. The origin of the movement was associated with, if not based upon, the belief that the members of the So. of Friends enjoyed a superior longevity to that of the pop. generally. But the proverbial sagacity of the parties concerned induced them not to place reliance upon a mere vague belief; but rather to bring together the records they knew to exist, and which could be made available for actual proof. Accordingly the Registers of Friends in different parts of the kingdom—more particularly in *London and Middlesex, Yorkshire, Lancashire, Essex, and Westmoreland*—were carefully abstracted, and the births and deaths over a period of 20 years—from 1811 to 1831—were submitted to the scrutiny of Mr. W. L. Newman, the then Actuary of the *Yorkshire Ins. Co.*; and he deduced the following T. [see next page] therefrom. The adult members observed upon were found to be mostly engaged in agriculture, manufactures, and commerce.

The numbers in the 2nd and 3rd cols. are those actually drawn from the Registers. The rates of prem. for the Inst. (Life depart.) were deduced from the results here furnished, and were slightly below those then currently charged by many Life Offices. But the idea of the founders of the Inst. was to keep entirely on the safe side in all their proceedings. See FRIENDS' PROVIDENT INST.

T. of the Mort. amongst the So. of Friends, founded upon the Experience of a Portion of that So. from 1811 to 1831.

Years of Age.	The Nos. attaining each Year.	Deaths at each Age.	Expectation.	Years of Age.	The Nos. attaining each Year.	Deaths at each Age.	Expectation.	Years of Age.	The Nos. attaining each Year.	Deaths at each Age.	Expectation.
0	6113	718	41'812	34	3519	46	31'027	68	1712	80	10'246
1	5395	291	46'310	35	3473	46	30'432	69	1632	80	9'724
2	5104	155	47'922	36	3427	46	29'833	70	1552	84	9'199
3	4949	96	48'408	37	3381	46	29'232	71	1468	84	8'697
4	4853	81	48'355	38	3335	47	28'629	72	1384	86	8'194
5	4772	60	48'168	39	3288	47	28'031	73	1298	88	7'704
6	4712	50	47'774	40	3241	47	27'430	74	1210	90	7'228
7	4662	40	47'281	41	3194	47	26'826	75	1120	94	6'769
8	4622	32	46'686	42	3147	47	26'219	76	1026	96	6'343
9	4590	32	46'008	43	3100	47	25'609	77	930	98	5'946
10	4558	34	45'328	44	3053	47	24'996	78	832	96	5'590
11	4524	36	44'665	45	3006	47	24'379	79	736	94	5'251
12	4488	38	44'019	46	2959	47	23'760	80	642	92	4'947
13	4450	40	43'390	47	2912	48	23'134	81	550	84	4'691
14	4410	40	42'780	48	2864	48	22'513	82	466	74	4'447
15	4370	41	42'166	49	2816	48	21'888	83	392	64	4'192
16	4329	42	41'561	50	2768	48	21'260	84	328	54	3'912
17	4287	43	40'963	51	2720	48	20'625	85	274	50	3'584
18	4244	44	40'373	52	2672	48	19'987	86	224	50	3'272
19	4200	44	39'794	53	2624	48	19'343	87	174	45	3'069
20	4156	44	39'207	54	2576	49	18'694	88	129	32	2'965
21	4112	44	38'621	55	2527	49	18'048	89	97	25	2'779
22	4068	45	38'058	56	2478	49	17'394	90	72	20	2'570
23	4023	45	37'453	57	2429	49	16'735	91	52	16	2'366
24	3978	45	36'871	58	2380	50	16'069	92	36	12	2'195
25	3933	46	36'288	59	2330	54	15'404	93	24	9	2'042
26	3887	46	35'711	60	2276	60	14'758	94	15	6	1'966
27	3841	46	35'133	61	2216	66	14'143	95	9	3	1'944
28	3795	46	34'553	62	2150	70	13'562	96	6	2	1'666
29	3749	46	33'970	63	2080	70	13'001	97	4	2	1'250
30	3703	46	33'386	64	2010	70	12'436	98	2	1	1'000
31	3657	46	32'799	65	1940	74	11'868	99	1	1	'500
32	3611	46	32'211	66	1866	76	11'318	100	0		
33	3565	46	31'620	67	1790	78	10'777				

1837.—An examination of the Regis. of the So. in Gt. Brit. from 1800 to this date revealed the fact of the birth of 8207 boys and 7759 girls—the births of males being as 105'7 to 100 females. For the whole of E. and W. in the 3 years 1838-41 the births regis. were in the proportion of 104'8 boys to 100 girls. Vide 4th Rep. Reg.-Gen. pp. 9-10.

1840.—About this date Mr. Tuke, the Treasurer of the Retreat Asylum near York, who had bestowed many years of unremitting attention to the subject of Insanity, stated, as the result of 20 years' experience in that inst., that there was prob. 1 insane person for every 300 among the So. of Friends. This was supposed to be more than double the rate then prevailing among the pop. at large; but there was this view to be taken, that the So. placed under proper care all its members so afflicted—while in the country generally many were allowed to remain uncared for, or were left to the unskilled mercy of relatives. *Vide Statis. Journ.* vol. iv. p. 278. (See 1844.)

1844.—There was read this year before the Brit. Asso. (*York meeting*) a paper by Dr. Thurnam, M.D.: *On the Relative Liability of the two Sexes to Insanity*; wherein it was stated that within a given period (not there defined) the number of members of the So. of Friends who had been admitted into the Retreat at York, were 45 men and 55 women—giving 18 p.c. more females than males. But investigation had shown that the number of females in the So. of Friends was 20 p.c. greater than of males—prob. even higher as to adult females. The paper proceeds:

Indeed after 15 years of age, before which insanity seldom occurs, we can, I think, scarcely estimate the excess of females over males at less than from 30 to 35 p.c. And thus assuming, as there is every reason for doing, that as respects the proportions of the two sexes attacked, the experience of the Retreat represents that of the So. at large, it will appear that in this community there are still from 10 to 14 p.c. more men than women attacked with mental derangement. This is an excess on the side of men, considerably less prob. than that which prevails in the kingdom generally. "The progressive accumulation of females in an hospital for the insane is well illustrated by the experience of the Retreat—where at the end of 45 years the women exceeded the men by 30 p.c.; and where the average number of women resident during the whole period was 35 p.c. higher than that of men. . . .

The larger number of women existing in the So. of Friends was attributed to the fact that men secede from the sect much more frequently than women.

From the same authority we learn that at the Asylum for the So. of Friends at Frankford (Pennsylvania), during the period 1817-42, the proportion of men admitted exceeded that of women by 7 p.c. But in the general pop. of Pennsylvania and the adjacent States, the proportion of males exceeded that of females by about 4 p.c.; and at from 20 to 40 years of age, 6 p.c.: "There however may be, and prob. is, less difference in this respect in the So. of Friends in the States alluded to—or the women may even preponderate in this community."

1854.—In a paper read by Mr. Horace Mann, before the Statistical So. of Lond. this year: *On the Statistical Position of the Religious Bodies in England and Wales* [Statist. Journ. vol. xviii. p. 141], the following details were furnished: The So. of Friends had 371 places of worship, with a total number of 91,599 sittings; the number of attendants at the chapels in the morning was 14,364, in the afternoon 6619, in the evening 1495; the number of Sunday schools were 35, scholars 3212; the number of day schools 33, scholars 3026. It was said that the members of this body had 100 sittings for each 8 attendants; and that this arose from the declining numbers of the sect. (pp. 149-50.) (See 1858.)

1858.—Mr. John Joseph Fox, Surgeon, Stoke Newington, and a prominent member of the So. of Friends, read before the Statistical So. of Lond. a paper: *On the Vital Statistics of the So. of Friends*, wherein is brought together much information of considerable value, which we now proceed to review. The following is important, as defining the prob. cause of the variation of data at different periods:

The So. of Friends has existed for rather more than two centuries. They have been accustomed from their origin to keep a careful record of all births and deaths happening among them, and of all marriages solemnized according to their rules. *Until about the middle of the last century there was no such thing as distinct membership of the So.; the general term "professing with friends" including all that were in the practice of attending their meetings. About that era membership was defined, and members became a distinct body; yet they continued to regis. the births and deaths of those who were not members of the So., and only gradually distinguished them on the Registers. Those born of parents who are members of the So., being members by birthright, the So. forms a pop. including all ages. It is subject to slight increase by the accession of new members from what is termed "convincement"; it is subject to decrease by emigration, by resignation of membership, by disownment for moral delinquency, and disownment for marrying one not a member. There is little doubt that of late years these causes of decrease have outweighed the slight increase from the accession of new members.* (p. 209.)

The numbers at two periods in the three divisions of the U. K. are thus shown:

	1840.			1847.		
	Males.	Females.	Total.	Males.	Females.	Total.
E. and W.	7388	8889	16,277	7050	8295	15,345
Scotland	79	69	148	72	75	147
Ireland	?	?	3,280	1470	1771	3,241
	?	?	19,705	8592	10,141	18,733

The decrease here shown as having occurred in 7 years is 5.72 p.c. in England and Wales, and 1.19 p.c. in Ireland. Scotland remained about stationary. The decrease in England and Wales differed in the sexes—among the *males* it was 4.57 p.c.; among the *females* 6.68.

The number of *marriages* in decennial periods range from 2820 (maximum) in 1670-9, down to 1059 during 1770-9; and 659 during 1840-9. To ascertain the proportion of marriages to the pop. in which they occurred, we must come down to the period of two enumerations, viz. that for 20 years—1830 to 1849, when the rate was 0.46 p.c., or about 1 marriage to 216 persons; the second for 13 years—1841 to 1853, when the rate was 0.42 p.c., or 1 to 236 persons. The average of these two estimates, viz. 1 in 226, is very different from the number for the gen. pop. of E. and W., which for the 18 years 1838 to 1855 was about 1 in 122.

Mr. Fox adds in a note:

If we examine the ratio of marriages to the number of females living at marriageable ages, the discrepancy between the marriage rate of the So. and that of the gen. pop. becomes greater. 98½ p.c. of the marriages in E. and W. are contracted by females aged 15 and under 50. In the 5 years 1849 to 1853 the ann. marriages in E. and W. were 3.33 p.c. of the females living between 15 and 50 at the census of 1851; in the So. of Friends from 1841 to 1853, the ann. marriages *according to rule*, were 1.62 p.c. of the females living at the same ages at the middle of the period. The one proportion is more than double the other.

The preceding figures relate, it is seen, to marriages "according to rule." But if we were to include the "out marriages," the proportions would be very different—for the "out" marriages are to the "in" as 55 to 100. The rate so calculated gives 1 *person married* in 73; while the rate for the whole of E. and W. is 1 in 61. Even thus corrected, the marriage rate in the So. is still much below that of the whole pop.

The *Births* in the So., taken in decennial periods, range from 9753 in the period 1670-

79; down to 6586 in 1770-9; and finally down to 3850 during 1820-9; to which, however, the births belonging to the "out-members," and which numbered 2540 in the last period, should be added in view of completeness.

A curious fact is here noticed, viz. that while the male births during the period 1800-37 were (as already noted) 105·7 to 100 females; in the "out-members" the male births were as 110·8 to 100 females; but it is here suggested that as the regis. was not compulsory as to these, the voluntary registration may have been influenced by the "greater importance attached to the regis. of boys."

The proportion of *Births to Marriages* has shown a tendency to decrease: thus in the 10 years 1800-09 there were 5·09 births to 1 marriage; during 1810-19, 5·19; 1820-29 4·45; 1830-39, 4·40; in the whole 37½ years 4·81 to 1. Mr. Fox asks the question, "How far do these numbers measure the real *fecundity*, or average number of living births from each marriage?" and answers himself as follows: "They really do so very imperfectly, and that for two reasons. In the first place, the births in any given period are the result of marriages which average from 8 to 10 years earlier; and if the pop. be decreasing, these marriages were more numerous than they are in the period during which the births occurred. Consequently the mere comparison of the births with the marriages in the same period gives a quotient which is larger than the actual fecundity." This he proceeds to illustrate. He adds: "We must not conclude that 4·81 is necessarily an over-estimate of the fecundity in the So. of Friends."

We next reach the *Deaths*. Those of the sect in E. and W. are given for the period 1800 to 1837. In the decennium 1800-09 they were 4855—giving an ann. average of 485·5; in that of 1810-19, they were 4525—ann. average 452·5; 1820-29, 4363—average 436·3; 1830-37, 3446—ann. average 459·4. In the 15 years 1842-57 the deaths averaged 148·6 males p.c. to 198·8 females—being in the proportion 133·7 females to 100 males.

The ratio of females living to each 100 males in the So. in E. and W. in 1840 was 120·3; in 1847, 117·6. In Gt. Brit. and Ireland 118·0. In the gen. pop. of E. and W. it was, in 1851, 104·1. "It thus appears that the distribution of the sexes among the So. in Ireland is not very different from that in E. and W. And in E. and W. we find that the *excess of females*, although much greater than in the gen. pop., is diminishing. While the aggregate of the sexes decreases, the number of females is decreasing in largest ratio."

In a comparison of the proportion of births to deaths there is given the following generalization: it will be seen that there has been an invariable increase in the proportion of deaths to births; and that while among females the deaths have exceeded the births in every decade, this was not the case among males in the first two decades, but has been so since. This is the simple result of males being in excess in the births, while in the deaths the preponderance has been on the other side. "*It furnishes a law applicable to all pop. decreasing by excess of deaths over births:—that the decrease begins earlier and goes on faster in the female sex than in the male.*" Moreover, it explains the fact of the decrease of the So. being so much greater among females, in spite of the causes of separation operating so much more on the male sex."

There is an estimate of the loss sustained by the So. from causes otherwise than those of death. This is arrived at by the ingenious use of a Life T.—which shows out of a number existing at any given age what should be the number living at any subsequent age. It is thus shown that in the 3 decades commencing with 1797, and therefore terminating in 1827, the loss of males had been 46·6, 42·4 and 18·1 p.c. respectively; while of females the loss had been 21·7, 23·0, and 10·1 p.c. respectively.

There is next an examination of the "ages of the living," from which we learn that the proportion of persons below 40 years of age is much smaller in the So. of Friends than in the *gen. pop.*; and that in the extremes of life the difference of distribution is very great. "If we compare one sex with another, we observe that while in the *gen. pop.* males are in excess in each quinquennial period below 15, and that at every age above 15 females preponderate: in the *So. of Friends* females preponderate at every age, except between 10 and 20. What causes this exception it is difficult to say."

The next branch of the inquiry is that of "mort. at different ages." The data for this inquiry was drawn from the *Annual Monitor*, a publication of much interest, and devoted entirely to the affairs of the So. Mr. Fox considered its return for ages under 5 imperfect; also that it included some persons not members of the So.

The returns relating to the So. of Friends for all ages over 5 are for Gt. Brit. and Ireland, and extend over the 10 years 1842-52. For ages under 5 recourse was had to different data, viz. that from 1780 to 1837. The returns relating to the pop. of E. and W. are for the 7 years 1838-44, as given in 9th Rep. of Reg.-Gen. (p. 177). Mr. Fox says: "To make the two series strictly comparable, one of them should be interpolated so as to make each decade consist of the same years of life. But even as they stand, calculated directly from the facts without any process of interpolation, the contrast between the two pop. is sufficiently striking. At each age under 15 the difference is very great. It should be recollected that these numbers rather *overstate* the mort. under 5 years in the So."

Mort. in the So. of Friends at Different Ages, compared with that of the General Pop.

Ages.	SO. OF FRIENDS.		Ages.	GENERAL POP.	
	Males.	Females.		Males.	Females.
O & under 1	14'817	10'729	O & under 1	20'510	15'440
0 " 5	5'598	4'733	0 " 5	7'072	6'037
5 " 10	556	681	5 " 10	926	900
10 " 15	336	487	10 " 15	504	548
15 " 20	782	841	15 " 25	805	833
20 " 30	881	911	25 " 35	958	1'009
30 " 40	782	1'141	35 " 45	1'249	1'242
40 " 50	994	1'138	45 " 55	1'776	1'548
50 " 60	1'404	1'677	55 " 65	3'141	2'782
60 " 70	4'473	3'379	65 " 75	6'613	5'885
70 " 80	8'583	7'461	75 " 85	14'394	13'201
80 " 90	17'826	21'618	85 " 95	29'646	27'553
90 & upw.	48'065	38'416	95 & upw.	42'697	40'795

From the preceding T. Mr. Fox calculated a Life T. "The numbers prior to 5 years of age are not advanced with much confidence. That any error in them might not vitiate the rest of the T., I have placed the basis at 5 years. I have calculated the expc. of life, or mean future lifetime, and placed in a parallel col. the mean future lifetime of the gen. pop. of E. and W., derived from the 6th and 12th vols. of Reg.-Gen. Reports." Here is the T.

Life T.—So. of Friends, and Gen. Pop. of E. and W. (FOX.)

Age.	SOCIETY OF FRIENDS.				GEN. POP. OF E. AND W.	
	Life Table.		Expec. of Life or Mean Future Lifetime.		Mean Future Lifetime.	
	Males.	Females.	Males.	Females.	Males.	Females.
0	1305'8	1256'6	45'34	45'72	40'36	42'16
1	1125'6	1128'6	51'54	49'87	46'95	47'55
5	1000'0	1000'0	53'83	52'08	50'21	50'37
10	968'4	961'4	50'53	49'10	47'47	47'81
15	951'4	938'0	46'38	45'25	43'62	44'13
20	916'4	900'7	43'05	42'02	39'99	40'80
25	876'5	860'1	39'90	38'89	36'60	37'51
30	839'5	819'0	36'55	35'71	33'21	34'21
35	806'4	775'6	32'95	32'64	29'82	30'98
40	774'1	733'1	29'22	29'31	26'46	27'72
45	739'6	693'0	25'46	25'86	23'13	24'42
50	704'3	652'4	21'61	22'32	19'87	20'07
55	663'9	606'3	17'77	18'82	16'66	17'62
60	600'0	549'6	14'37	15'49	13'60	14'39
65	502'8	478'3	11'65	12'42	10'90	11'51
70	386'6	393'8	9'38	9'53	8'55	9'01
75	269'2	292'7	7'40	6'93	6'57	6'91
80	164'5	173'3	5'56	4'97	4'97	5'19
85	80'2	71'8	3'89	3'69	3'74	3'85
90	25'2	19'9	2'64	2'80	2'80	2'83
95	3'7	3'4	1'68	1'72	2'11	2'08

A comparison of the 4th and 5th columns of the preceding T. with the 6th and 7th respectively, will exhibit the following results: The expc. (mean future lifetime) of a "Friend" of either sex is much greater than that of the gen. pop.; in early childhood the difference between them is very great. While in the male sex this difference continues considerable throughout life, amongst females it dwindles down almost as soon as infancy is passed; and throughout early womanhood and middle life is but slight. In other words, the females of the So. of Friends do not show by any means so much improvement on the gen. pop. of their sex as the males do on theirs. Hence it follows,

that while in the gen. pop. the mean future lifetime of the female is throughout life greater than that of the male; in the So. of Friends it becomes less than that of the male very shortly after birth, and continues less until between 35 and 40. After that age it is greater, and so remains until upwards of 70." Mr. Fox adds hereon:

This fact—the *lower relative value of female life*—is a striking and unexpected one. In attempting to account for it, we must bear in mind that although these conclusions are derived exclusively from the So. of Friends, *it by no means follows that they belong exclusively to them*. A body living in some luxury, or at any rate comfort, is compared with another body including all classes of society. If we could obtain data from another body in a similar social position, we should certainly find a similar improvement in the value of life; and perhaps we might find the very same phenomenon—a defect in the degree of improvement of the value of life among females. A very natural explanation of the apparent difficulty is, that the increased value of male life is so much greater in consequence of their being exempt from the dangers, fatigues and injuries that beset the life of young and middle-aged men among the operative classes. If there were no other objection to this explanation, there is this, which is fatal to it—that the much greater improvement in male than female life begins from a very early age—at least 5 years, when these causes cannot be operating. I confess I entertain a strong suspicion that the true cause lies in defective female training—not perhaps peculiar to the So. of Friends, but belonging to the upper and middle classes of the social scale. Females during the period of childhood, adolescence, and the early part of middle life, are much more liable than males to be injured by the luxuries and refinements that surround an educated class. If we could obtain reliable facts upon the prevalence of consumption in the upper and middle ranks of society, it would throw much light on this important question. This period between 5 years, and 35 or 40, during which the mean future lifetime of females in the So. is less than that of males, is the period during which, as pointed out by Dr. Farr, in the recent Rep. of the Reg.-Gen., the mort. from consumption in the gen. pop. is greater among females than among males. *There must be some connexion between these facts, and it will be well for them to become generally known, so as to influence those who have the care of female education.*

Mr. Fox adds by way of note: "According to the *Experience T.* [No. 1] the expect. of the life of females from the age of 20 to nearly 40 is below that of males of the same ages. This has been commonly explained by supposing *selection* against the office. May it not rather be due to the same law in the upper and middle classes of society which this paper shows to prevail in the So. of Friends?"

Passing now to a consideration of the *comparative mort.* of the So. of Friends and the gen. pop., we are reminded that the mere comparison of the gross mort. of two pop. throws very little light on their relative healthiness or vitality. Their different distribution as regards age must be taken into account, and then they can be fairly placed side by side. The result of a painstaking comparison is that if the mort. of the gen. pop. were distributed according to age, as is that of the So. of Friends, it would lose ann. 18·5 p. 1000 of its males, and 18·5 p. 1000 of its females—whereas from 1838 to 1844 it lost ann. 22·7 of its males, and 21 of its females. "It must be recollected that in this computation the mort. in infancy in the So. of Friends is prob. over-estimated: so that the difference between the mort. of Friends and that of the gen. pop. is rather greater than those numbers show; nevertheless the improvement, at least on the *male* side, is very considerable."

The mean age at death, and the mean age of the living, in the So. of Friends, is next compared with these conditions in the gen. pop.; but the results are subject to various adjustments into which we do not propose here to enter.

The mode of construction of life T. already given is explained; and the following T. of the numbers and ages of the living, which had been brought into account therein, is given—the deaths being for the 10 years from end of Sept. 1842 to the like period in 1852:

Living and Deaths in the So. of Friends in Gt. Brit. and Ireland. (Fox, 1858.)

Ages.	MALES.			FEMALES.		
	Living June 30, 1847.	Deaths in 10 Years.	Mort.	Living June 30, 1847.	Deaths in 10 Years.	Mort.
5 — 10	810	45	·00556	824	56	·00681
10 — 15	893	30	·00336	858	41·75	·00408
15 — 20	896	70	·00782	894	75	·00841
20 — 30	1421	125	·00881	1474	134	·00911
30 — 40	999	78	·00782	1282	146	·01141
40 — 50	947	94	·00994	1285	146	·01139
50 — 60	863	121	·01404	1153	193	·01677
60 — 70	591	264	·04473	875	295	·03379
70 — 80	329	282	·08583	587	437	·07461
80 — 90	91	162	·17826	140	302	·21618
90 & upw.	5	24	·48065	12	46	·38417

Small as these materials seem when compared with the elements of a National Life T. (says Mr. Fox), "it must be remembered that they are more than twice as extensive as the facts on which the celebrated *Carlisle T.* was formed." The pop. was a *decreasing* one, but correction was made for this.

The following are Mr. Fox's conclusions: he remarks hereon that he has treated the

So. "solely in its aspect as a pop.—confining myself to its vital statis., and leaving untouched the important and deeply interesting subjects of its religious and moral welfare." Examined in this view, it presented an instance of a pop. with the following characteristics :

1. That it is undergoing decrease from two proximate causes :—the first, excess of secessions over accessions ; and the excess of deaths over births : the former of which operates most on the male sex, the latter on the female.

2. That its distribution as regards sex and age differs very much from that of the gen. pop. in two important respects : viz. in the much larger *excess* of females over males ; and in the much smaller proportion of individuals existing at the younger ages. In other words it is an older pop. with a larger proportion of females.

3. That even with a large add. for marriages between members and those not belonging to the So., it presents a marriage-rate considerably below that of the gen. pop.

4. That the fecundity of marriages is *apparently* greater than in the gen. pop. ; whether it is actually so is a point that must still be left undetermined.

5. That the death-rate is considerably below that of the gen. pop.

6. That the improved value of life is materially different in the sexes, so that while the *expec.* of males throughout life is considerably greater than that of the male pop. in Eng., that of females from infancy to middle life is but *slightly greater* than that of the gen. female pop.

In the same vol. of the *Journ. of the Statis. So.* is given, at p. 481 : *Supplementary T. to paper "On the Vital Statis. of the So. of Friends,"* by J. J. Fox, F.S.S., wherein the present value for annu., and life ins. prem., deduced from the same data as the Quinquennial T. already given, are set forth for all ages from 5 upwards to 105—int. 3 p.c. The following is an abstract.

Age.	Value of Annu.	Net prem. for Ins. £100.	Age.	Value of Annu.	Net prem. for Ins. £100.
	£	£		£	£
10	23'9368	1'0975	60	10'5129	5'7735
15	22'8929	1'2727	65	7'7887	7'3032
20	22'1512	1'4068	70	7'2721	9'1763
25	21'4420	1'5433	75	5'8573	11'6704
30	20'5472	1'7284	80	4'4503	15'4147
35	19'4015	1'9890	85	...	...
40	18'0285	2'3426	90	...	...
45	16'4621	2'8141	95	...	...
50	14'6221	3'4886	100	...	...
55	12'5337	4'4763	105	...	...

1859.—There was pub. by John Stephenson Rowntree : *Quakerism Past and Present*, a pamph., 8vo. To this pub. was awarded the prize of 100 guineas for the best essay on the causes of the decline of the So. of Friends.

1875.—There was compiled by Mr. Pliny E. Chase, A.M., Consulting Actuary of the *Provident Life and Trust Co.* of Philadelphia, the following "T. of Mort. in the So. of Friends" [see page 150], based upon the records of 14,666 interments, 4264 births, and 8 enumerations of "Friends" in the city of Philadelphia—the great strong-hold of that sect in the U.S.

The author draws the following general deductions from his T.

Probability of Life.—Out of 10,000 born in the So. of Friends, nearly 5000 die before reaching the age of 48 ; that age is therefore the prob. of life ; the prob. of any one dying before reaching that age being as great as of surviving it.

General Expectation.—Out of 10,000 born under same conditions as above, the 5000 dying under 48 will attain an average of about 17 years. The 5000 dying over 48 will attain an average of about 71 years. The mean between these two, to wit, 44 years, is therefore the *general expec.* Which he brings into contrast with a similar T. which he had constructed for the whole city of Philadelphia. [PHILADELPHIA, MORT. FOR, 1875.]

	Friends. Per 1000.	Philadelphia. Per 1000.	Advantage of Friends.
Proportionate Mort. (in first year)	124'66	180'38	44'70 p.c.
Average Proportionate Mort., from 20 to 60 inclusive ("the term during which insurances are most frequently effected")	14'25	17'58	23'37 "
	Years.	Years.	
Probability of Life ("vie probable")	48'08	33'44	43'78 "
General Expectation (at birth)	43'73	35'09	24'62 "
Greatest Vitality. Age 12	310'56	257'74	20'49 "

"If no diminution of vitality occurred in those existing at that age, the above is the term of life that would be reached by some one of those living."

Mort. T. for the So. of Friends in Philadelphia. (CHASE, 1875.)

Age.	Living Number.	Dying Number.	Proportionate Mort. p. 1000.*	Expectation. Number of Years.	Age.	Living Number.	Dying Number.	Proportionate Mort. p. 1000.*	Expectation. Number of Years.
0	10000	1247	124'66	43'73	55	4470	85	19'04	18'78
1	8753	511	58'38	48'89	56	4385	89	20'20	18'13
2	8242	272	33'06	50'89	57	4296	92	21'48	17'49
3	7970	192	24'08	51'61	58	4204	96	22'90	16'87
4	7778	137	17'62	51'87	59	4108	101	24'45	16'25
5	7641	99	12'95	51'79	60	4007	104	26'12	15'64
6	7542	72	9'55	51'46	61	3903	109	27'95	15'05
7	7470	53	7'12	50'95	62	3794	114	29'90	14'47
8	7417	40	5'40	50'32	63	3680	118	32'00	13'90
9	7377	31	4'25	49'59	64	3562	122	34'26	13'34
10	7346	27	3'56	48'80	65	3440	126	36'72	12'80
					66	3314	130	39'40	12'27
11	7319	23	3'24	47'97	67	3184	135	42'32	11'75
12	7296	24	3'22	47'12	68	3049	139	45'50	11'25
13	7272	25	3'42	46'27	69	2910	142	48'94	10'76
14	7247	27	3'80	45'43	70	2768	146	52'68	10'29
15	7220	31	4'28	44'60					
16	7189	35	4'85	43'79	71	2622	149	56'70	9'83
17	7154	39	5'48	43'00	72	2473	151	61'04	9'39
18	7115	44	6'18	42'24	73	2322	152	65'65	8'97
19	7071	49	6'90	41'50	74	2170	153	70'58	8'56
20	7022	54	7'66	40'78	75	2017	153	75'82	8'18
					76	1864	152	81'32	7'81
21	6968	58	8'38	40'09	77	1712	149	87'10	7'45
22	6910	62	9'00	39'43	78	1563	145	93'14	7'12
23	6848	66	9'55	38'78	79	1418	141	99'42	6'80
24	6782	68	10'00	38'15	80	1277	136	105'96	6'49
25	6714	69	10'40	37'53					
26	6645	72	10'72	36'92	81	1141	128	112'72	6'20
27	6573	72	11'00	36'31	82	1013	122	119'72	5'93
28	6501	73	11'24	35'71	83	891	113	126'94	5'67
29	6428	74	11'48	35'11	84	778	104	134'40	5'42
30	6354	74	11'70	34'51	85	674	96	142'10	5'18
					86	578	87	150'00	4'95
31	6280	75	12'90	33'92	87	491	77	158'10	4'74
32	6205	75	12'10	33'92	88	414	69	166'42	4'54
33	6130	75	12'31	32'72	89	345	61	174'93	4'34
34	6055	76	12'48	32'12	90	284	52	183'66	4'16
35	5979	76	12'65	31'52					
36	5903	75	12'84	30'92	91	232	44	192'62	3'98
37	5828	76	13'02	30'32	92	188	38	201'80	3'81
38	5752	76	13'18	29'71	93	150	32	211'25	3'65
39	5676	76	13'32	29'10	94	118	26	220'98	3'49
40	5600	75	13'45	28'49	95	92	21	231'02	3'34
					96	71	17	241'38	3'20
41	5525	75	13'58	27'87	97	54	14	252'14	3'05
42	5450	75	13'72	27'25	98	40	10	263'30	2'91
43	5375	74	13'85	26'62	99	30	9	274'92	2'78
44	5301	74	14'00	25'99	100	21	6	287'02	2'64
45	5227	74	14'13	25'36					
46	5153	74	14'28	24'71	101	15	4	299'66	2'50
47	5079	73	14'46	24'06	102	11	4	312'92	2'35
48	5006	74	14'68	23'40	103	7	2	326'85	2'19
49	4932	73	14'95	22'74	104	5	2	341'54	2'01
50	4859	75	15'30	22'08	105	3	1	356'75	1'80
					106	2	1	372'87	1'52
51	4784	75	15'78	21'41	107	1	0	389'96	1'12
52	4709	77	16'40	20'75	108	1	1	...	'50
53	4632	79	17'15	20'09					
54	4553	83	18'02	19'43					

* Proportionate mortality, per 1000, out of the number living at each age.

1876.—According to the latest official returns, the number of Friends in the U.K. was 17,186. The number of deaths in 1876 was 330. Of these 51 were of persons between 60 and 70 years of age, 86 between 70 and 80, 45 between 80 and 90, and 4 between 90 and 100. Thus nearly 57 p.c. of the deaths were of persons over 60 years of age, whilst the deaths under 21 were 19 p.c. It has—says the *Sanitary Record*, reviewing these statistics—“been so frequently stated that the Quakers are not long lived, and that the mort. amongst their children is much higher than the rest of the pop., that the above, together with the fact that the average age of Quakers for the past 3 years has been just 55 years, will dispel what appears to be a popular delusion.”

From another source we learn that the number of members of the So. of Friends in England at this date was 14,441, showing a slight increase upon the previous year, when when the number was returned at 14,253. Of 95 members who married in 1876, no less than 49—or slightly more than one-half—were united to persons not belonging to their sect. The rate of mort. among the sect in Eng. was 18 p. 1000, which is very low.

This year too there was pub. by the Charity Commissioners a list or digest of endowed charities in E. and W. intended for the benefit of members of the So. of Friends. The list is long, but consists chiefly of small charities, many of them designed to meet wants not requiring a large sum. There are endowments for paying the expenses of Friends attending yearly or quarterly meetings; for “buying hay for Friends’ horses in stable at meeting;” for those who entertain public Friends on religious service; for the entertainment of such strangers as shall come to visit Friends at Arundel. Another trust, which ought by this time to be obsolete, is for the relief of poor Friends or prisoners “suffering on account of truth.” There are several charities for the encouragement of marriage among poor Friends—a marriage portion fund in the metropolis produces £380 a year. Charities producing nearly £9000 a year are for distribution in money among poor Friends; there is about £8000 a year applicable to education, and £5000 for the maintenance of meeting-houses. The total gross income of the charities reaches £27,425 a year.

FRIGATE.—The name applied to a ship with one covered gun-deck, and having her upper deck flush.

FRIGHT (Class, LOCAL; Order, *Diseases of Nervous System, grouped with Insanity*).—A fluctuating number of deaths occur every year from this cause; and this has prob. been so from the earliest periods of which we have any record. Thus in the Bill of Mort. for 1666 there were no less than 117 deaths recorded as being the result of “Fright and Grief.” But this was an exceptional year, on account of the Great Fire of Lond. Grief is a more extended cause of death. Fits prob. embrace some who die from grief. Rage is also a kindred cause. In 1866—two centuries later—the deaths by fright in the whole of Eng. were 2 only—both females. Of these one died between 25 and 35; the other between 55 and 65. In the following year 9 deaths were regis.—2 males, 7 females. Of the males one was a child aged 2, the other a man between 20 and 25. Of the females 1 was aged 2, 1 between 25 and 35, 1 between 45 and 55, 2 between 65 and 75; and 2 between 75 and 85. In 1875 (last return) the deaths in Eng. in the year were 6—one male and 5 females.

FRIGUET, M. ERNEST, pub. in Paris, 1859: *Traité des Avaries, communes et particulières, suivant les diverses législations maritimes.* 2 vols.

FRIPP, CHARLES BOWLES.—He communicated to the Bristol Statistical So. a paper: *Statistics of the City of New York*, wherein is contained returns of pop., ins. cos., etc. The paper is printed in the Journ. of the Statistical So. of Lond., vol. ii. p. i.

FRITH OR **FIRTH** (from the Latin *fretum*, a narrow sea).—A term chiefly applied to a narrow and deep inlet of the sea upon a river, as the Frith of Forth in Scotland. This term corresponds to the *fjord* of the Danes and Norwegians.

FRITHMAN.—A member of a company or fraternity.

FROM.—The expression “from” a certain day, is held to exclude the day from which the time is to be reckoned.

So the expression “from” a certain place, or port, implies that the risk on the ship does not commence until the ship sails on her voyage from such port, i.e. until she quit her moorings and breaks ground, being in a state of perfect equipment and readiness for her sea-voyage.—Vide *Arnould*.

COMMENCEMENT OF VOYAGE OR RISK; DEPARTURE OF SHIP. See “AT AND FROM”; “TO SAIL FROM.”

“**FROM THE LOADING.**”—If the ins. be made to commence “from the loading,” this is held to mean from the completion of the loading, and not from its commencement.—Vide *The Napier*, 2 L.R., Q.B. 702.

“**FROM PORT TO PORT.**”—This does not include the risk while in the port either of the departure or arrival. **PORT.**

FROST, ACCIDENTS FROM.—See **FROST INS.**

FROST, ITS INFLUENCE UPON HUMAN LIFE.—Under title **COLD** we have given various instances of the influence of low degrees of temperature in increasing the rate of mort. Further investigation has enabled us to take a more enlarged view of the question: hence the following add. details.

1665.—The Hon. Robert Boyle pub. : *New Experiments and Observations upon Cold*. This was a work mainly of a scientific character.

1796.—Dr. Heberden the younger—famous son of a famed father—appears to have been the first to direct scientific attention to cold as affecting human life, in a paper which he brought before the Royal So. this year.—Vide *Phil. Trans.* 1796.

Mr. Milne (*Annuities*, 1815) not only furnishes the main results elucidated by Dr. Heberden, but gives us the benefit of his own enlarged views upon the points involved, as follows (*vide pp.* 508-17) :

815. The month of Jan. in the year 1795 having been the coldest, and that of the year 1796 the warmest, that are known to have been experienced in this country, an interesting paper by Dr. Heberden on the mort. of Lond. during the first 5 weeks in each of these two years was read before the Royal So. and printed in their *Trans.* for 1796; an abstract of it was afterwards inserted by the author in his valuable Tract on the increase and decrease of different diseases.

The circumstances were certainly very favourable for determining in what way an intense frost affects the mort. of Lond.; but in comparing the mort. of the severe with that of the mild winter, one consideration, most material to attend to, appears to have been entirely overlooked.

Many infirm persons, no doubt, who had arrived at the brink of the grave in Jan. 1795, and might have lingered there a year or two longer, with mild winters and favourable circumstances that attend them, were precipitated into it by the severe frost which took place then, and by the privations they had to suffer in consequence of it.

There would therefore be fewer persons of that description living in Jan. 1796 than ordinary; and if the cold then had been as intense as in the Jan. preceding, it could not have occasioned so great a mort. On this account, the effects both of a temperature much above and much beneath the usual average of our winters, must be greatly magnified in the comparison mentioned above.

Some T. are then given in proof of this position; and, as was to be expected with so acute an observer as Mr. Milne, he brings into the consideration the price of food—the price, or “Assize of Bread,” had long been given at the foot of the London Bills. He continues :

816. . . . The deaths and the average price of the quartern loaf (of wheaten bread) have been taken from the London Weekly B. of Mort. Agreeably to what was observed in the last art., it will be found that though there was hardly any frost in the first 5 weeks of 1794—and the price of bread then was only about half what it was in the corresponding part of 1796—the total number of deaths was nearly twice as great; the number that died above 60 was more than 3 times as great; and the deaths of children under two years of age was greater than during the same period in the severe frost of 1795.

817. The first 5 weeks from the beginning of Aug. in the years 1794 and 1795 are also, by the order of their succession, well adapted to illustrate this: the one period being in the summer next preceding, and the other in that next following the intense frost. The temperature in these two periods, it will be observed, was almost exactly the same, and of course very high; the deficiency of the crop in 1795 was evident in Aug., and the price of bread was nearly double what it had been in the Aug. preceding; therefore, if the pop. in those two periods had been similarly composed, the mort. might naturally have been expected to be higher in the second; but the fact is that in the second period there was a much smaller proportion of infirm persons, on account of the havoc the severity of the preceding winter had made amongst them. In consequence of this both the general mort., and that among the aged, were considerably less in the second period: and amongst infants under 2 it very little exceeded one-half what it had been in the August preceding. (One reason why the deaths of infants had risen again in Jan. 1796 is, that the greatest mort. amongst them takes place within the first year from birth, and those of that age had been accumulating by new births throughout 1795.)

818. It is manifest that the excessive cold in January 1795 increased the mort. considerably, *though not so much as had been generally believed*; but admitting that an intense frost increases the general mort., it does not therefore follow that a moderate degree of it, such as we commonly have in England in the depth of winter, does so. Our clothing and habitations are only adapted to protect us against the common inclemencies of the weather: therefore, when we happen to be visited by a winter of uncommon severity, many of the people must suffer, not so much because that degree of cold is unfavourable to life, as on account of our houses and clothing being too slight. To speak of cold being healthful or unhealthful, without any reference to these, would be absurd; and without proper attention to them, no just inferences respecting the effect of cold upon our health can be drawn. Neither does it follow necessarily, that if the depth of winter be the season of the greatest mort. in London, it must be generally so: for there is a greater portion of sedentary and infirm persons in the metropolis, than in the general mass of the pop.; and the same weather which chills the sedentary, and proves fatal to the infirm, may promote the health of the bulk of the people, who are active and robust.

819. In considering this subject, it is necessary also to discriminate between the direct physical effect of cold upon the human body, in producing the mort. that attends an intense and long-continued frost in Lond.; and its indirect effect (which may perhaps be greater) in raising the price of fuel, and almost every necessary of life, by obstructing the roads to the metropolis, and the navigation of the Thames, at the same time that it is impossible for many persons to pursue the occupations which they depend upon for their daily subsistence. Thus circumstanced, in want both of clothing and fuel, a poor family are glad to shut themselves up in their small apartment, and exclude the air by every possible means: when by insufficient food, and vitiated air, contagious fevers are produced that occasion great mort.

Attention is here called to Dr. Hunter's paper on this subject in vol. iii. of *Medical Trans.* Dr. Heberden also remarked upon the effect of *Frost* in London; but he did not consider it to be the principal means by which cold increased the mort. This famine and fever aspect of the question we regard as important, as at least vitiating the health of many more than are directly killed by frost. Mr. Milne continues :

820. The increase of power to produce mort., which an intense frost acquires in Lond., by bringing *hunger* to its aid, may be illustrated by considering the effect of famine separately. The first 5 weeks of the year 1800 is a period well adapted to the purpose: for the T. in art. 816 show that the price of bread then was about double what it had been in the corresponding part of the preceding year; and although the weather was much warmer than in Jan. 1799—there having been no frost in all that time (except 3 nights, and that very slight)—not only the general mort., but that amongst aged persons and infants exceeded the mort. in the colder winter that preceded it, in a greater degree than that during the severe frost of 1795 exceeded the mort. in Jan. 1794.

821. For the reasons assigned in art. 815, it is prob. that the mort. in Jan. 1801 would have been very small if the price of bread had fallen considerably; and the deaths were fewer then than in the

Jan. preceding, by nearly a third part, notwithstanding that the price of bread had increased about one-third. The diminution in the proportion of infirm persons by the mort in the preceding year, with the rise of wages and the active benevolence of the middling and higher classes of society throughout the year, having more than counterbalanced the rise in the price of bread, in affecting the mort. amongst the poor and labouring classes, which form the bulk of the pop.

The argument is raised, that if intense cold increase mort. greatly, "its effects might be expected to be most remarkable in the countries most exposed to it;" whereas in fact this is not found to be so—even although the range between their summer and winter temperature is also much greater than in our own. The specific answer may be that provision is made alike as to clothing the person and warming the dwellings in all cold countries; but perhaps the more effective answer is, that it is the departure from the conditions to which we have become accustomed either by birth or acclimatization, that really endangers life. Cold *per se* does not, under proper regulations, kill those accustomed to its influences.

1831.—In the *Essays and Orations* of Sir Henry Hallford, pub. this year, there is included one *On the Effects of Cold*; which attracted considerable attention at its first appearance.

1849.—In an able art. in the *Quarterly Review* of Sept. this year, entitled "Fontenelle on the Signs of Death," there occurs this instructive passage:

That to be frozen to death must be frightful torture many would consider certain from their own experience of the effects of cold. But here we fall into the usual error of supposing that the suffering will increase with the energy of the agent, which could only be the case if sensibility remained the same. *Intense cold brings on speedy sleep, which fascinates the senses, and fairly beguiles men out of their lives.* A friend of Mr. Robt. Boyle, who was overtaken by drowsiness while comfortably seated on the side of a sledge, assured him that he had neither power nor inclination to ask for help; and unless his companions had observed his condition, he would have welcomed the snow for his winding-sheet. But the most curious example of the seductive power of cold is to be found in the adventures of the botanical party who, in Cook's first voyage, were caught in the snow-storm on Tierra del Fuego. Dr. Solander, by birth a Swede, and well acquainted with the destructive deceptions of a rigorous climate, admonished the company, in defiance of lassitude, to keep moving on. "Whoever," said he, "sits down will sleep—and whoever sleeps will perish." The Doctor spoke as a sage, but he felt as a man. In spite of the remonstrances of those whom he had instructed and alarmed, he was the first to lie down. A black servant, who followed the example, was told he would die; and he replied, that to die was all he desired. But the Doctor despised his own philosophy: he said he would sleep first, and go on afterwards. Sleep he did for two or three minutes; and would have slept for ever unless his companions had happily succeeded in kindling a fire. The scene was repeated thousands of times in the retreat from Moscow. "The danger of stopping," says Beaupré, who was on the medical staff, "was universally observed, and generally disregarded." Expostulation was answered by a stupid gaze, or by the request to be allowed to sleep unmolested: for sleep was delicious, and the only suffering was in resisting its call. Mr. Alison, the historian, to try the experiment, sat down in his garden at night when the thermometer had fallen four degrees below zero; and so quickly did the drowsiness come stealing on, that he wondered how a soul of Napoleon's unhappy band had been able to resist the treacherous influence. And doubtless they would all have perished if the fear of death had not *sometimes* contended with the luxury of dying. Limbs are sacrificed where life escapes; and such is the obtuseness of feeling that passengers in the streets of St. Petersburg rely on one another for the friendly warning that their noses are about to precede them to the tomb. An appearance of intoxication is another common result, and half-frozen people in England have been punished for drunkards—an injustice the more galling, that in their own opinion the state was produced by the very want of their sovereign specific, "a glass of something to keep out the cold."

It is added—and here the *rationale* of the process is brought before us:

The whole of the effects are readily explained. The contracting force of the cold compresses the vessels, drives the blood into the interior of the body, and the surface, deprived of the life-sustaining fluid, is left torpid or dead. A part of the external circulation takes refuge in the brain, and the congestion of the brain is the cause of the stupor. The celerity of the operation, when not resisted by exercise, may be judged from the circumstance that in the few instants that Dr. Solander slept, his shoes dropped off through the shrinking of his feet. There is the less to wonder at in the contradiction between his precepts and his practice. In proportion to the danger which his mind foretold was the ease with which his vigilance was overpowered and disarmed.

1855.—The *Quarterly Rep.* of the Eng. Reg.-Gen. covering the first 3 months of this year contained the following passages:

The health of the pop. generally has been bad; and the mort. has greatly exceeded the average. 134,542 deaths have been regis., which is 20,000 in excess of the corrected average of the winter quarters. This add. to the ordin. mort. of winter, which is in England the most fatal season, is referable to the law of temperature, with the consequent hard times against which it is difficult for the wages classes to make adequate provision; and in other countries, where there is no such system of relief as is administered under the English Poor Law, the suffering and mort. are much greater in severe seasons than they are in England.

Persons of advanced ages among all classes have been cut off in great numbers, and have thus fallen before they had passed through the evening of life. Young children have also died in considerable numbers. Bronchitis and the congestive diseases of the lungs have been the immediate causes of death. *The frost, which braces the nerves of the hardy and strong, chills the veins of the aged and weakly.* The temperature of the night falls, as Mr. Glaisher shows, 1° on an average below the temperature of the day; and it is in the night undoubtedly that the respiratory organs are most frequently injured: when the water freezes in the bed-rooms of houses that are not warmed by fires, or by warm air diffused by Dr. Arnott's and other admirable inventions. . . .

The excess of the mort. in the quarter is diffused over the whole kingdom; nor is it evident that the northern have suffered more than the southern counties. The deaths in Lond. exceeded by 3247, or one-fifth part, the deaths in the winter quarter of 1854; the deaths in the rest of Eng. were 19,452, or nearly in the same degree in excess of that season. . . .

The *Scottish Reg.-Gen.* in his first detailed Rep. (pub. in 1861, but dealing with the mort. incidents of this year), after offering some obs. upon the influence of the weather upon the duration of human life [WEATHER, INFLUENCE OF], proceeds:

Let us first, however, look at the influence of temperature on the total deaths, and endeavour to

ascertain, whether in this country it is heat or cold which is most to be dreaded; whether it is heat or cold which gives rise to the greatest number of deaths. The accompanying T. shows the mean temperature of each month of 1855, together with the corrected number of deaths. . . . From this it will be seen that the connexion between temperature and the number of deaths is of the closest kind; *that the coldest month is also the most fatal; and that each month yields a number of deaths nearly exactly proportioned to its coldness*; and that, contrary to the assertion of all writers upon sanitary matters, the deaths do not increase with the heat, but constantly and rapidly diminish; *that, in fact, in this country, it is cold which kills, and not heat.*

We are further told that the monthly mean temperature in *Scotland* very rarely rises above 60, even in the warmest months, which are July and August.

A writer in the *Times*, referring to this period, drew attention to the fact, that while it had been clearly estab. that the ratio of deaths among *children* is *very great when they are exposed*, showed also the increasing effect of cold with increase of age, and this followed a fixed law, as follows: If life be divided into periods of 20 years each, that is, at the ages of 20, 40, 60, and 80, according to the experience in London, during the six weeks' severe cold which ended on the 24th Feb. 1855, the mort. caused by cold, for the 1st period, is 2'0, for the 2nd 7'15, for the 3rd 44'9, and for the last 181'8; the diminution of the power of resisting cold, with increasing age, is most remarkable. If the increase of mort. from the age of 20 to that of 40 is represented by unity, the increase afterward will be found to double each year and will be represented by 2, 4, 8, and so on. (See 1874.)

1861.—At the Social Science meeting, held at Dublin this year, Mr. Benjamin Scott, F.R.A.S., Chamberlain of the City of Lond., read a paper: *Intemperance and Pauperism; considered particularly in reference to the Severe Frost in Lond. in the Winter 1860—1.* [*Trans.* p. 485]. The scope of this paper may be gleaned from the following passage:

. . . . The winter of 1860-61 was preceded by seasons remarkable for continuous rain, resulting in a deficient harvest, which again resulted in a rise in the price of bread, and an augmentation of pauperism throughout the country. Shortly before Christmas, 1860, a severe frost commenced in Lond., which continued without intermission until the close of Jan. 1861. The period of distress consequent on the frost cannot, however, be defined by the mere reading of the thermometer. For our present purpose it will be more satisfactory to date the period of distress from the time of the closing of the Thames (the great highway of the commerce of Lond., which became greatly obstructed by ice) until the period when business was resumed on that river, say about Christmas, 1860, until the close of the 4th week in Jan. 1861. By reference to returns rendered to Parl. by the Statist. Depart. of the Poor Law Board we are enabled to gauge the increased amount of pauperism in the metropolis resulting from the dearness of food, as well as to ascertain the augmentation which took place consequent upon the inclemency of the weather. For this purpose we must compare the number of paupers relieved weekly, both before and during the period of distress consequent upon the frost, with the corresponding weeks in the preceding winter.

This he proceeds to do, and evokes the fact that while the general augmentation of pauperism was represented by some 3000 persons receiving weekly relief, or an increase of between 3 and 4 p.c. up to the latter weeks in Dec. 1860, the increase rose immediately, in the succeeding weeks of frost, in the ascending series of 10'55, 28'42, and 42'48 p.c. respectively. He adds:

These figures also prove that no less than 130,317 persons, many representing families, were in receipt of parochial relief in Lond. during the 3rd week of frost—being 38,851 in excess of the corresponding week of the preceding year. They do not, however, afford anything like a full representation of the facts, or express adequately the amount of improvidence of the labouring classes: for it must be borne in mind that, in consequence of a few telling appeals in the Lond. public press, an amount of individual benevolence was evoked altogether unprecedented—and, as it afterwards appeared, even in excess of the requirements of the case. It was shown that in add. to the relief afforded by law, a sum of about £16,000 was disbursed in a few weeks to about 64,000 persons or families, by the London Police Magistrates; as well as large sums of relief afforded from other sources.

While we quote these facts as affording evidence of the influence of Frost upon the very existence of considerable portions of the pop., they are used by the author of the paper as an evidence of the improvidence, "which, notwithstanding the facilities offered by Savings Banks, and Benefit Sos.," still prevails among the labouring masses of our pop.

1864.—The observations of the Regis.-Gen. in his Rep. upon the first quarter of this year have already been given under title COLD.

1874.—The effect of cold upon mort. was again tested this year, as it had been tested in 1855, viz. with relation to its influence at the progressive ages of 20—40, 40—60, 60—80, 80 and upwards. The period observed upon was the 5 weeks ending 19 Dec. The deaths increased from 6967 to 9871, that is, the increase attributable to the cold during the five weeks amounted to 2902, or, on an average, 581 a week. The mort. was greater according to the age. Out of every 1000 persons of the four periods above mentioned, it was 2'2 for the period from the age of 20 to that of 40; 9'4 for that from 40 to 60; 46'9 for that from 60 to 80; and 218'3 for persons more than 80 years old. The increase of mort. caused by cold rose 8 p.c. for each year of age, and, after 20 years of age, doubled every 9 years. "Extreme cold has a well-defined mort. of its own."

The *Deutsche Versicherungs Zeitung*, commenting on the preceding facts, offered the following obs. thereon:

Human beings, like other warm-blooded animals, have the capacity of engendering heat to maintain the temperature of their bodies at a certain point. The power is, however, affected by various circumstances; the necessity for its exercise varies, in a still higher degree, on account of the perspiration which is constantly going on over the whole surface of the body, and on account of the loss of heat caused by the lungs. The loss from the latter cause is greater in cold weather than in warm, the air inhaled being colder. The material from which heat is developed is supplied by food, and this development is hastened by exercise. Food is the fuel, and exercise is the wind that fans its combustion. . . .

Air, which is taken into the lungs at a temperature of 28° Fahr., is not raised quite to the degree of blood heat, but to about 98° Fahr. As about five litres of air are inhaled every minute, a considerable quantity of heat is set free, through the action of the lungs in respiration, no matter how warm the clothing may be in which we are enveloped.

Cold is best counteracted by exercise, which stimulates the development of heat in the system. Heat is maintained by good food, a good fire, warm clothing, and contrivances by means of which the warmth expended in respiration is retained in the body.

1876.—The influence of the wind in intensifying the effect of cold became a subject of discussion in the cols. of the *Times*. The following is a *résumé* of the facts elicited: Admiral Richards, in his letter on the Arctic Expedition, says, "I had frequently travelled in a temperature of from 30° to 40° *minus* in comparative comfort during a calm; but when a strong wind sprang up, it raised the temperature more than 20°, and we could not face it. I never received any satisfactory reply to this." The following extract from *Jenyns's Meteorology* gives a solution: "The late Dr. Heberden employed the term 'sensibly cold' to signify the degree of cold perceptible to the human body in its ordinary exposure to the atmosphere, as distinguished from the temperature of the air itself; for (as he observes), while the thermometer truly marks the temperature of the medium in which it is placed, the sensations of the body depend altogether upon the rapidity with which its own heat is carried off." In a temperature of 20° *minus*, with a strong wind, one would feel 'sensibly colder,' and greater discomfort would be experienced in facing such weather than in a calm with the thermometer at 40° *minus*, because the wind would dry up the skin, causing great evaporation therefrom, and consequently great loss of bodily heat; while in the latter case, while a calm evaporation goes on at a slower rate, the heat of the body is not so rapidly carried off, hence less discomfort." Cantab, on the same subject, said, "I think the following a probable explanation:—During a calm the movement of the air in immediate contact with the skin is very slight, and thus there is time for its temperature to be raised by the heat of the body; but a strong wind, by increasing the rapidity in movement of this air, constantly brings fresh cold air to abstract heat from the body, and so more than neutralizes its opposite effect of raising the general temperature. In this way, though the air be warmer, the body loses heat."

Reference should be made to the titles COLD; FAMINES; FOOD; METEOROLOGY; STARVATION; and TEMPERATURE.

The T. under FROSTS, GREAT, will be of value for reference in various points of this art.

FROST, INS. AGAINST.—The proposal for insuring Agricultural and Horticultural products against the ravages of Frost took its origin in France in 1857, when a scheme known as the *General Bank for Agricultural Assu.* was put forward, in the view of being adopted by the Government. We have already given a brief outline of the proposal under title of AGRICULTURAL INS.

In our art. FRANCE, sub-heading *Frost, Ins. against*, we have given many details of the requirements of such a scheme, in the shape of data upon the destruction occasioned by Frost in the wine-growing Departments. We have also given some details of a scheme for creating artificial clouds, and of so rendering Frost Ins. unnecessary.

By way of supplement to what we have there said, we add the following, from the *Wine Trade Review* for May, 1873, of the damage inflicted by a three nights' frost visitation in the preceding month:

The frost which scourged all the vineyards in France during the nights of the 24th, 25th, and 26th of April, when also snow and hail fell at intervals and often in abundance, has proved most fatal in Champagne. Now that the terrible consternation of first impressions has abated, and after having obtained as correct information as possible respecting those vineyards which I have not personally inspected, I am able to estimate without much danger of exaggeration the extent of the damage inflicted. The disaster is more severe and more general on the right than on the left bank of the Marne. Thus, on the right bank, Damery, Cumieres, Hautvillers, Dizy, Champillon, Ay, Mareuil, have been heavily stricken; the loss in these rich vineyards, estimated at first at about four-fifths of the crop, is now considered to be about two-thirds. At and beyond Avenay the frost has caused less destruction, the loss at that place being one-third, while Bouzy and Ambouney have lost only one-fifth. The severity of the damage, however, is resumed at Rilly, which it is calculated has lost two-thirds; but Chigny and Ludes, more favoured, lose only one-half. But the rich slopes of Mailly and Verzenay are damaged to the extent of five-sixths of the crop, the vineyards of Verzenay being, moreover, infested with the *pyrale*, which, before the frost, had already destroyed the young buds to a considerable extent. I have no reliable estimate respecting Verzy, which has, however, been severely visited. As to the vineyards on the left bank of the Marne—Epernay, Pierry, Moussy, Vinaŷ, St. Martin, have lost about two-thirds of their crop. The valley from Vertus to Avize has been more spared than any other part of Champagne. At Vertus the loss is reduced to one-fifth, at Le Mesnil to three-fifths, at Oger to one-fifth, at Avize to one-tenth, at Cuis to three-fifths. On the other side of the mountain of Avize, the slopes of Grauves, facing due south, have been completely devastated, and the vineyards of Mancy, Monthelon, Chavot, have been scarcely more spared. On the authority of the most trustworthy accounts from all quarters, it may fairly be reckoned that at present a proportion equal to two-thirds of the Champagne crop has been annihilated, and there is still before us all the dangerous contingencies of the five months which precede the vintage. This alarming situation, actual and possible, has given rise to considerable transactions.

In the face of all this we are compelled to assert grave doubts whether ins. against frost has ever passed from the range of theory into that of actual practice in France.

In 1870 it was stated that a Co. for ins. against the damage resulting from frost had been founded at Dresden, in Saxony; but we have seen no details of its progress. [GERMANY.]

A case, known as Dr. Bean's case, only narrowly escaped coming before the American Law Courts in 1873, wherein the question involved was, whether freezing to death in an ascent of Mont Blanc was a death within an Accidental Ins. Pol., which insured against death from external, violent, and accidental means; but which did not include death from any cause of which there was no external and visible sign. Upon this case the *American Law Review* (vol. vii. p. 592) offered the following obs.:

That freezing is an accident where it occurs without want of due care and needless exposure by the insured would seem to follow from the analogy of drowning, or of suffocation by gases in a coal-mine, or carbonic acid in a chamber. The effect of exposure to the heat of the sun is hardly analogous. Sun-stroke is a specific disease, and is as positive an affection of the brain as apoplexy or paralysis. Sinclair's case [*Sinclair v. Maritime Passengers Co.*], and the dicta therein, do not apply to death from atmospheric causes, where no specific disease is produced; and the argument that death in Dr. Bean's case was not an injury of which there was any external and visible sign, is answered by denying the fact. *The frozen body was itself a visible sign of the injury.* Frost in the corporeal tissues, and ice in the arteries, are as visible signs of injury as extravasated blood around the spot where a blow is struck.

The accident ins. cos. in Eng. pay yearly a very considerable number of non-fatal claims arising directly from frost injuries, such as falls, sprains, etc.; and many claims indirectly resulting from the same cause: such as broken axles, etc. Also fatal cases, from breaking of the ice while skating, etc. But we are not aware of any fatal claim having arisen in the U.K. from exposure, as in Dr. Bean's case.

FROSTS, GREAT.—As supplemental to the last several articles, as, also, to titles COLD, FAMINES, FOOD, METEOROLOGY, TEMPERATURE, etc., the following T. will be of value.

T. OF THE GREAT FROSTS OF HISTORY.

A.D.	
134	<i>England.</i> Thames frozen over two months.
163	" Thames and all rivers frozen nearly three months.
173	" Three months' frost, followed by dearth.
220	<i>Britain.</i> Frost lasted five months continuously.
250	<i>England.</i> Thames frozen over nine weeks.
290-91	" Most of the rivers frozen for about six weeks.
359	<i>Scotland.</i> Fourteen weeks' frost; also very severe in <i>England</i> .
401	<i>Europe.</i> The Euxine Sea frozen; also parts of Bosphorus.
474	<i>England.</i> Frost with great snow for four months.
507-8	<i>Britain.</i> Rivers all frozen for about two months.
525	<i>England.</i> Thames hard frozen for six weeks.
558	<i>Eastern Europe.</i> The Danube frozen over.
604	<i>Scotland.</i> Four months' frost, followed by dearth; also severe in <i>England</i> .
670	<i>England.</i> "A fatal frost."— <i>Short.</i>
695	" The Thames frozen over for six weeks. Trade carried on in booths, etc.
707	<i>Asia.</i> Terrible frost.
759	<i>England.</i> Frost from 1st October to 26th February, 760.
763	<i>Constantinople.</i> The two seas frozen.
821	<i>England.</i> Great frost, after two or three weeks' rain.
827	" Thames frozen nine weeks.
856	<i>Poland.</i> Great frost.
859	<i>Eastern Europe.</i> Carriages were used on the Adriatic Sea.
860	" Mediterranean Sea frozen in various parts.
908	<i>England.</i> Most of the rivers frozen for about two months.
923	" The Thames frozen over for thirteen weeks.
962	" "So great as to cause a famine."
975	" Severe frost.
987	" A frost that lasted 120 days; began 22nd December.
998	" Thames frozen over five weeks.
1020	" Very severe.
1035	" Frost on Midsummer Day; all grass and grain and fruit destroyed; a dearth.— <i>Short.</i>
1059	<i>England.</i> Great frost, and severe plague and famine after.
1061	" Thames frozen over seven weeks.
1063	" Thames frozen fourteen weeks.
1066	" A great frost.
1070	" Severe.
1076-77	" Frost from 1st November to 15th April. "In the tenth year of his [William the Conqueror] reign, the cold of winter was exceedingly memorable, both for sharpness and continuance; for the earth remained hard frozen from the beginning of November until the midst of April then ensuing."— <i>Harleian Miscellany</i> , vol. iii. p. 167.
1095-99	<i>England.</i> These winters all very severe.
1114-15	" Great frost; timber bridges broken down by weight of ice. This year was the winter so severe with snow and frost, "that no man who

- was then living ever remembered one more severe; in consequence of which there was great destruction of cattle."—*Old Chronicle*.
- 1121-22 *England*. Killed grain crops, "and much people and cattle;" famine followed.
- 1128 *England*. Very severe.
- 1149-50 " Frost continued from 10th December to 19th February.
- 1154 " Great frost.
- 1157 *Italy*. Great frost in.
- 1176 *England*. Frost from Christmas to Candlemas.
- 1205 " Frost from 14th January to 22nd March. "Frozen ale and wine sold by weight."—*Short*. "In the seventh year of King John began a great frost, which continued till the 22nd March, so that the ground could not be tilled, whereof it came to passe, that in the summer following a quarter of wheat was sold in many places in England for a mark [20s.], which for the more part of the days of Henry II. was sold for 12d., and a quarter of beans and peas for a noble, and a quarter of oats for 3s. 4d., which were wont to be sold for 4d."—*Penkethman*.
- 1207 *England*. Frost extended over fifteen weeks.
- 1209 " Long and severe winter, followed by dearth.
- 1221 " Severe.
- 1226 " Severe and snow.
- 1233 " Frost lasted till Candlemas.
- 1234 " "18 Henry III. was a great frost at Christmase, which destroyed the come in the ground, and the roots and hearbs in the gardens, continuing till Candlemasse without any snow, so that no man could plough the ground; and all the yeare after was unseasonable weather, so that barrenesse of all things ensued, and many poor folkes died for the want of victuals, the rich being so bewitched with avarice that they could yeild them no reliefe."—*Penkethman*.
- " The *Mediterranean* was frozen over in many parts, and merchants traded their merchandise with carts.
- 1241 *England*. Deep snow; great frost after.
- " " St. Mark's night, frost and snow fatal to fruit trees.
- 1250 " Very severe.
- 1254 " 1st January to 14th March, severe.
- 1263 " "On St. Nicholas we began a month's hard frost."
- 1269 " From 30th November to 2nd February.
- 1280 " Began on St. Vincent's Day and lasted fifty days, severe.
- 1288 " Great frost and snow.
- 1291 " Severe all the winter.
- 1294 *North of Europe*. The Cattegat, or sea between Norway and Denmark, was frozen; and that from Öxlo, in Norway, traders travelled on the ice to Jutland.
- 1296 *Baltic*. This sea covered with ice from Sweden to Gothland.
- 1306 " This sea covered with ice for fourteen weeks, between the Danish and Swedish islands.
- 1323 *Baltic*. This sea frozen and passable to travellers for six weeks.
- 1337 *England*. Severe frost without snow.
- 1338 " Severe frost for twelve weeks, after rain.
- 1349 *Baltic*. This sea again frozen, and passable from Stralsund to Denmark.
- 1353 *England*. 6th December to 12th March. "Very cruel."
- 1363-64 " 16th September to 6th April. "Very terrible."
- 1402 *Baltic*. This sea frozen from Pomerania to Denmark.
- 1407 *England*. Frost fourteen weeks; small birds perished.
- 1408 *Baltic Provinces*. Severe frost.
- 1420 *Eastern Europe*. The sea between Constantinople and Iskodar frozen and passable.
- 1426 *North of Europe*. Ice carried traffic from Lubec to Prussia.
- 1433 *Germany*. Very severe.
- 1434 *England*. 15th November to 10th February. Thames frozen down to Gravesend.
- 1438 *England*. "Great and long."
- 1459 *North of Europe*. The Baltic frozen from Mecklenburgh to Denmark.
- 1468 *Flanders*. Very severe frost; wine cut with hatchets.
- 1515 *England*. Carriages crossed the Thames from Lambeth to Westminster.
- 1523 " "Most severe."
- 1537 " Very severe during December and January.
- 1543 " Great frost.
- 1544 *Flanders*. Wine in casks frozen into solid lumps.
- 1548 *North of Europe*. Oxen sledges travelled on ice from Rostock to Denmark.

- 1564 *England.* Diversions on the frozen Thames.
 1565 *Netherlands.* Scheldt frozen so as to bear laden waggons.
 1572 *England.* From 2nd Nov. to 5th January, hard ; late spring.
 1579 " "Most hard."
 — 1594 *Europe.* Rhine, Scheldt, and Adriatic at Venice frozen.
 1598 *England.* Very severe in January.
 1607 " Fires and diversions on the Thames—seven weeks.
 1609 " "Severe and long."
 1615 " From 17th January to 7th March.
 1621 " Very severe from 24th November to 7th December.
 — 1622 *Greece.* Ice covered the Hellespont.
 1623 *Eastern Europe.* The Danube frozen.
 1627 *England.* From 20th January to 12th February.
 1635 " From 15th December to 11th February, severe.
 1645 " 8th December to 17th January, severe.
 1648–49 " "Now was the Thames frozen over and horrid tempests frown'd."
 22nd January.—*Evelyn's Diary.*
 1658 *England.* From 1st December to 10th March, "north wind."
 " *North of Europe.* The army of Charles X. of Sweden crossed the ice from
 Holstein to Denmark—horse, foot, and artillery.
 1662 *England.* 28th November : "A very hard frost."—*Pepys' Diary.*
 1663 " 28th January to 11th February : severe ; "8th February being a
 very hard frost ;" 28th August, "cold all night and this morning, and a
 very great frost, they say, abroad ; which is much, having had no summer
 at all, almost."—*Pepys' Diary.*
 1664–5 *England.* 28th December to 7th February. 6th February : "One of the
 coldest days, they all say, ever felt in England."—*Pepys' Diary.*
 1667 *England.* 15th February to 19th March.
 1669 " Severe, with some remissions.
 1670 *Prussia.* The waters of the *Rhine* frozen at *Coblentz* from the 11th to 17th
 January, so that the artificers exercised their several trades upon the ice.
 1678 *England.* 9th December to 9th February, with one remission.
 1680 " Frost. "Long and hard."
 — 1684 " Terrible frost of long continuance. "Many forest trees split."
 "In the severe frost of 1683–4, not only oaks, but elms and ash of con-
 siderable bulk, and also walnut trees, were very much rent by the
 violence of the cold ; oaks were most of all affected, and some split in
 such a manner as to be seen through, with a noise like the report of a
 gun. These clefts were not towards the same point of the compass."
 —*Gent's Mag.* 1743, p. 144. There was published : *Modest Observations*
on the Present Extraordinary Frost, and of the most Eminent Frosts that
have happened for many Hundred Years Past. By T. T[RYON]. 4to.
 Very severe also in the North of Europe : ice in the harbour of Copen-
 hagen 27 inches thick.
 1687 *England.* From 8th Dec. to 30th January, with some remissions.
 1691 *Europe.* The severity of the weather drove wolves into the cities, Vienna, etc.
 1693 *Germany and Italy.* Severe in November and December.
 1696–97 *England.* "Severe."
 1707 " 1st January to April.
 1709 " Great frost for 3 months, with snow, etc. "That dreadful winter."
 —*White's Selborne.* Mr. Derham supposed that this frost was greater
 than any within the memory of man.—*Phil. Trans.* Very little frost in
Scotland or Ireland.
 1711 *England.* Severe up to March.
 1716 " A fair held on the Thames ; oxen roasted.
 1718 " "A short severe frost."
 1728 " A month's severe frost.
 1734 *Holland.* Very severe ; but none in Sweden or Norway.
 1737 *Italy and Spain.* Very severe frosts ; none in Holland or Germany.
 ~ 1740 *England.* Nine weeks' frost ; coaches plied on the Thames. "Will stand
 famous in history."—*Short.* "I well remember after that dreadful
 winter, 1739–40, that cold north-east winds continued to blow on through
 April and May."—*White's Selborne.*
 "This month (January) the frost, which began the 26th of last, grew
 more severe than has been known since the remarkable winter of 1715–16 ;
 so that many who had lived years at Hudson's Bay declar'd they never
 felt it colder in those parts. The Thames floated with rocks and shoals
 of ice. . . . Bookstalls and printing presses were erected, and a frost
 fair held on it ; multitudes walked over it, and some were lost by their
 rashness. Several perished with cold in the streets and fields in and

- about the City. All navigation being obstructed, coals rose to £3 10s. p. chaldron. Many forest trees were split up by the frost, as had been the case in 1684."—*Gents. Mag.* 1740, p. 35.
- 1740 *Denmark and Prussia.* Very intense frosts.
- 1741 *England.* From 15th Sept. to 1st February. "All frost or rain."
- 1742 " Very severe for many weeks. "The frost having continued near 3 weeks, the streets in some parts of the City, though there had been no snow, were rendered very inconvenient, and several accidents happened."—*Gents. Mag.* (18th) Dec. 1742.
- 1745 *Russia.* Unusually severe.
- 1754 *England.* Very severe, especially at Bath, and in the S. W. of England. Very severe, also, in *Denmark and Poland.*
- 1760 *Germany.* Very severe.
- 1763 *England.* Frost lasted 94 days, and produced terrible effects. In the *Gents. Mag.* for this year, it is stated that the frost set in on Saturday 25th Dec. 1762: "A most intense frost with easterly wind, which has since continued, with very little intermission, until the end of January. Some experiments have been tried during the course of it, which prove that on some days it was no less severe than that of 1740, though upon the whole it has not been attended with the same calamitous circumstances. On Friday, 31st Dec., a glass of water placed upon a table in the open air, in 6 minutes froze so hard as to bear 5 shillings upon it; a glass of red port wine placed upon the same table froze in two hours; and a glass of brandy in 6, both with hard ice." In *Cornwall, Wales and Ireland* this frost was felt but slightly.
- " *Germany.* The frost seems to have set in sooner. On the 18th Dec. at 8 in the morning, the cold was 2° Fahr. below zero—the same as in 1740; the next day half a degree more, "which answers exactly the same degree of cold at Paris in 1739."—*Gents. Mag.*
- " *France.* The olives and vines suffered much; the Seine and Rhone being frozen over, the navigation was stopped, and provisions rose in Paris to famine prices.
- 1766 *England.* February 14th and 15th. Great rain-storm in the S. and S.W. of England, which, by reason of a N.E. wind, became frozen as it fell, and thus weighting down large timber trees, produced terrible destruction. In the Northern parts of England there was snow, accompanied by severe frost.—See *Gents. Mag.* February.
- " *Europe.* At *Ratisbon* (Bavaria) the frost was so severe that birds fell down dead with cold. On 13 Jan. Reaumur's thermometer was 2° lower than in the severe weather in 1709.
- " At *Lisbon* Reaumur's thermometer was 3½ degrees below freezing-point.
- " At *Naples* also the weather was so excessively severe that the snow lay knee deep in the streets; Mount Vesuvius was also covered with snow, at the same time throwing up fire and black smoke, which made a most astonishing appearance.—*Gents. Mag.* February.
- 1767 *England.* "Extreme frost."—*White's Selborne.* This was prob. at the close of the year: for in the *Gents. Mag.* under date Dec. 21 we find the following: "A severe frost set in from the E.S.E., which was followed by a deep snow, by which the navigation of the River Thames has been obstructed, and the posts retarded all over the kingdom." The frost was especially severe in the West of England.
- " *Denmark.* Jan. At *Copenhagen* the cold was reported to be as intense as it had been in 1740. The Sound was frozen over, and there was communication with *Sweden* on the ice.
- " *Russia.* Jan. The cold unusually intense; many, both rich and poor, perished; while many more were devoured by wolves in the forests.
- " *Prussia.* Jan. In *Berlin* the cold was more severe than it was in 1740. The Rhine was frozen near Coblenz—a circumstance which the annals of that city record as a memorable event. The artificers again followed their several trades upon the ice.
- " *Italy.* Jan. The cold was so severe as to drive the poor from their habitations in the country; and some were said to have perished.—*Gents. Mag.* January and February.
- " *France.* April 20. The frost was so severe in the province of Dauphiny, that it destroyed the vines, and cut off the blossoms of the early fruit trees.—*Gents. Mag.*
- 1768 *England.* Jan. "We have had very severe frost and deep snow this month; my thermometer was one day 14½° below freezing-point, within doors. The tender evergreens were injured pretty much. It was very providential that the air was still, and the ground well covered with snow, else

- vegetation in general must have suffered prodigiously. There is reason to believe that some days were more severe than any since the year 1739-40."—*White's Selborne*.
- 1768 *Scotland*. Very severe frost.
- 1769 *England*. April. Severe frost.
- 1770-71 " "Dreadful springs." Frost and snow.—*White's Selborne*. The *Gents. Mag.* 11 Feb. 1771, says, "Last night the frost was so intense that the thermometer was below 1 deg. 12 dig. at about 11 o'clock. And this morning the barometer was 2 degrees lower than it was on 18 Jan. last—consequently 2° lower than it has been known for these nine years."—p. 92.
- 1776 *England*. The thermometer at Northampton was on 30 Jan. at 9°, by 2 Feb. it had risen to 40°. In the *Phil. Trans.* for this year (art. xl.) was a paper: *Obs. made during the late Frost at Northampton*. By A. Fothergill, M.D.
- 1779 *England*. Frost lasted 84 days.
- 1782 *Plymouth*. Feb. 16. "The most intense frost almost ever known. . . . The grass, which on Friday was as green and flourishing as if it had been mid-summer, on Sunday morning seemed to be entirely killed. This is mentioned by our correspondent as very unusual in that part of the country; and the snow lay on the ground in many places."—*Gents. Mag.*, p. 93.
- " *France*. "On the night of the 11th Nov., it froze so hard at St. Pons, a district in France, during a heavy shower of rain, so as to form a glazing as clear as crystal, and at the same time of the density of the most compact ice, and so thick that the tenderest twigs were in many places an inch thick. Hardly any trees were able to support the weight. Beech, ash, chestnuts, and oaks fell under it. Large branches were torn off, and some broke close to the roots. The most dismal prospect of desolation presented itself in the woods; and the most lamentable apprehensions of famine spread consternation throughout the province. The potatoes were frozen in the ground, and the vines blasted in the vineyards. The hills in the diocese of St. Pons, Castres, and Lavour, have been most exposed to its rigour. The valleys and plains have suffered little, being covered with a very deep snow."—*Gents. Mag.* Jan. 1783, p. 24.
- 783-84 *England*. Frost lasted 89 days [some authorities say 115 days]. This frost commenced in Dec., and continued through Jan. and Feb., and even in March there was snow and cold cutting winds. This frost was very general, as may be seen by the various accounts in the *Gentleman's Mag.* Thus in the Feb. number, "From the different parts of the country we have accounts of more persons having been found dead in the roads, and others dug out of the snow, than ever was known in any one year in the memory of man." In the January number it was reported from Montrose: "This winter is likely to be still harder on the poor man than the last, and the more so by its immediately succeeding it." But up to the Nov. preceding the winter had been so unusually mild, that on the 4th "the cattle seek shade at noon from the heat." On the 17th the thermometer stood at 56° indoors and out. On the 23rd and 24th there was frost and ice. On the 30th Nov., "very hard frost." On 6th Jan., "Thames not frozen quite over, but navigation stopped by ice." Notices of great severity, especially at London, Canterbury, Salisbury, Worcester, Northampton, Barnard Castle, Edinburgh, Amsterdam, Mannheim, and Hungary. Frost especially severe from 10th to 20th Feb. In the last days of the month the spring flowers were out, and the birds were singing. In March, frost, snow, and thick ice all through. Deep snow in Hampshire continued till April 3rd. The Thames frozen and traffic crossed at many places.
- On the fifth bell of the Tadcaster peal is recorded: "It is remarkable that these bells were moulded in the great frost, 1783. C. and R. Dalton, Fownders, York."
- In the *Gents. Mag.* for Feb. there is the following: "From Dec. 10, 1783, to this day it has been 63 days' frost; of these it snowed 19, and 12 days' thaw, whereof it rained 9. Had the frost continued at 13°, as on the 31st Dec. during the night, it would have frozen over the Thames in 24 hours."—p. 147.
- " *Southern Europe*. There was severe frost in *Venice*, *Genoa* and *Rome*.
- 1785 *England*. Severe frost. At Hinckley (Leicestershire), the thermometer registered on the last day of Feb., 19° Fahr. below freezing-point.—*Gents. Mag.* p. 194. There was much snow.
- " *Europe*. This frost was severe throughout Europe; particularly in *Holland*.
- 1789 *England*. Long and severe frosts.

- 1795-96 *England*. Winter very severe; Thames frozen. The Antiquarian Society of Newcastle recorded that the ice on the Tyne was 20 inches thick.
- 1812 *Russia*. Very severe; Napoleon at Moscow.
- 1814 *England*. When Louis XVIII. was King, at Hartwell, his bill for coals on one Sunday when the Thames was frozen over in 1814 was £94 18s. 6d., at 5s. per cwt. There was also "a power of beer and spirits" for the coalheavers.—*Vide Addenda to the Ædes Hartwellianæ*, by Vice-Admiral W. H. Smythe.
- " *Ireland*. Winter very severe.
- 1815 *Canada*. Frost at Quebec very severe.
- 1838 *England*. Jan. 7. A severe frost commenced this day—one of the most severe in modern times—and continued for a month. It was rendered more remarkable by the circumstance of its having been predicted in "Murphy's Almanack," which as a consequence became very popular. The doggerel of the period contained the following:
- "Murphy hath a weather eye—
He can tell whenever he pleases,
Whether it will be wet or dry,
When it thaws, and when it freezes."
- 1849 *Norway*. Frost very severe.
- 1855 *England*. Very severe between 14th Jan. and 24th Feb.; and very cold up to end of June. Fires on Serpentine in Hyde Park, and traffic established on ice in Lincolnshire.
- 1860-61 *England*. Very severe frost from 20th Dec. to 5th Jan.; many of the less hardy shrubs destroyed.
- 1873 *France*. Severe frost; great damage done to the vineyards—already referred to in the preceding art.
- 1874 *England*. Severe frost in Dec.

FRUGALITY BANKS.—Jeremy Bentham, in a series of tracts which he pub. early in the present century on the Poor Law and Pauper management, proposed a scheme of Frugality Banks, which will be spoken of under POOR.

FRUIT.—Under title FOOD we have already had occasion to speak of the benefits of Fruit to the human system. Much more might be said in the same direction; but the following from the 10th Rep. of the Reg.-Gen. (1852), where a then recent outbreak of scurvy was under consideration, really embodies the germ of the subject:

The groundless prejudice against fruit, and the absolute necessity in diet of vegetables like the potato, containing an acid, were dwelt upon, before scurvy and its kindred diseases made their appearance. It is true that fruit when taken to excess produces symptoms which may be mistaken by persons unacquainted with medicine for common cholera. But beef and mutton in excess will do the same. . . . Fruit and acid vegetables are an essential part of the food of man; but it appears that the body, when duly supplied with the principle it derives from these sources, husbands it up, and can do without the acid diet for some time. The appetite for fruit and pickles is not then without its use, although the chemists have not hitherto explained how vegetable acids subserve nutrition. (p. xix.) [Food.] [SCURVY.]

FRUITFULNESS.—Fertility; which, so far as it applies to the human race, we have discussed under FECUNDITY.

FRY, A. A.—Was Actuary of *National Endowment* and Assu. So. in 1837; and of the *National Mercantile* down to about 1848.

FRY, EDWARD.—Sec. of *London and Palatine* Fire, of which he was the founder in 1877. He commenced his Ins. career in the *Unity* Fire in 1854, and remained there until the trans. of its bus. in 1862. He next went on to the staff of the *Commercial Union*; and from thence to the *Royal*. In 1864 he became Chief Clerk in the Manchester branch of the *London and Lancashire*, and retired in 1874, to become an Insurance broker.

FRYER, GEORGE.—Has at different times held the position of Sup. of Agents to the *National Guardian* (No. 1), the *English Widows*, *National Provincial*, etc., etc.

FUCHES, MONS.—A German physician, who in 1734 invented a chemical mixture for the extinguishment of fires. See FIRE ANNIHILATORS.

FUCHS, EDWARD.—Some years since Superintendent of the Agency Department of the *Northern*. He was trained to Fire Ins. bus. in the *Globe*, which office he entered in 1843. In 1852 he joined the *Northern*, and travelled through the United States, West Indies, Turkey, and Syria for that Co. He retired in 1866, and settled in Hamburg, where we saw him a few years back, looking in good health and spirits. His knowledge of Fire bus. was very extended.

FUERO JUZGO.—A code of laws founded by the Visigoths while in possession of Spain, and still held in some repute in that country. [CODEX VISIGOTHORUM.]

FULL AGE.—This term usually implies in *England* having reached 21. The same in *Scotland*, *Ireland*, and the *United States*; also in *France* for every purpose except marriage, as regards which full age means 25. By the *Civil Law* full age was not attained until 24. By the old law of *France* the age of majority was 25. By the custom of *Normandy* the age of majority was 20. By the law of *Spain* the age of 24. By that of *Holland* 25. In some parts of *Germany* the majority is attained at 21, in others at 18, in others at 25; in *Saxony* at 21.

FULL AND COMPLETE CARGO.—Where a charter-party binds a freighter to put on board a ship a “full and complete cargo,” this signifies a cargo within 3 p.c. of the actual carrying power of the ship. This was so held in a case in the Common Pleas, 1876, which we have not yet seen reported. See *Jones v. Holm*, L.R. 2 Ex. 335; and *Southampton Steam Colliery Co. v. Clark*, L.R. 4 Ex. 73, and 6 Ex. (Ex. Ch.) 53.

FULL CLAIM AND DEMAND.—See **FULL SATISFACTION**.

FULL PARTICULARS.—This term (which is frequently used in Fire pol.) has been held to mean the best particulars which the insured can reasonably give [*Mason v. Harvey*, 22 L.J. (Exch.) 336]. Hence, if from the loss of books and vouchers, or the total destruction of the goods, the insured cannot furnish the “particular account” required, a statement of the gross amount lost, together with the circumstances of the loss, under oath, is sufficient [*Bumstead v. The Dividend Mut. Ins. Co.*, 12 N.Y. 81; see also *Hoffman v. Etna F. Ins. Co.*, 19 Abbott’s Practice R. 325]. The “particular account of loss or damage,” and the “inventory of all property destroyed or damaged, giving the value in cash of the damage sustained to each item,” require the party only to furnish a statement as particularly full as he can under the circumstances make. Where the books and papers of the insured are destroyed by the same fire which consumes the property insured, and he is prevented from complying with the conditions of the policy, a less particular statement is sufficient, and all that is called for within the fair meaning and intent of the parties, as expressed in the contract by the conditions [*Mason v. Harvey*, 8 Exch. 819].—*Flanders’ Law of Fire Ins.*, p. 530.

The preceding only applies to the goods lost or damaged, and not to the cause or manner of the loss [*Callin v. Springfield F. Ins. Co.*, 1 Sum. 434]. [**FIRE INS. LOSS, ADJUSTMENT OF.**]

FULL SATISFACTION.—A receipt given in “full satisfaction of all demands” is usually regarded as conclusive and binding. But exceptions sometimes arise, as in the case of railway accidents, and other severe injuries, where skilled knowledge is brought to bear upon the person injured, and he is induced to accept a very much smaller sum than the real nature of the injuries sustained, if he had at the time been aware of them, would have demanded. But where some time has elapsed, and the sufferer has himself had skilled advice, no such setting aside of a settlement can be permitted. [**ORAL TESTIMONY.**]

FULL VALUE.—It is not usual, in regard to property of any description, to insure up to the full value. The owner should always stand at some risk. In *Marine Ins.*, where the agent insuring frequently has and can have no possible interest in the loss, an exception arises—see **VALUED POLICIES**. It is mainly in *Fire Ins.* that full, or over, ins. may be deemed likely to increase the moral hazard. Mr. J. M. Rogers, in his *Principles and Practice of Fire Underwriting* (2nd ed. N.Y. 1871), speaks hereon with great circumspection:

49. The proportion of the value to cover, or to allow to be covered, is governed by circumstances. In prosperous times, two-thirds of the value of special hazards, and three-fourths on other property, may be covered. During times of depression and decline in prices, not exceeding one-half the *special* and two-thirds of *ordinary hazards* should be assumed or permitted. In estimating these values on buildings, be careful not to count in the land, and make a proper reduction for age, condition, and location; and in stocks make the proper reduction for shop wear. We desire to make it to the *interest of the assured*, to prevent the property from burning, and so long as he will lose money by the fire, there will be no temptation to burn his property. But it is very often difficult to ascertain even approximately what the value is. In cases where you have much doubt, it will be a good rule to obtain the best information possible. For instance, if it be a building, the opinion of an architect or builder would be of very great service; if a stock of goods, the opinion of a reliable merchant in the same line of business. We would, however, suggest that it is not usual to obtain the opinion of experts where there is no suspicion, and the applicant’s character is beyond reproach, and the property itself is in a good locality. The value wanted is *the actual cash value* at the time the insurance is effected.

In case of loss on buildings, persons usually think they are entitled to just what it would cost to replace the property new; when, in fact, there is very little, if any, property which is worth as much as new.

We would here suggest that you are at no time to agree with the assured what the value of his property is. Let him fix his own value; but you base your calculation of the amount to be insured upon your own opinion of the value. (p. 18.)

He adds:

50. *Decline all applications where the party desires more ins. than the property is worth.* No honest man wishes to pay for ins. which he does not get; and they are generally willing to carry a share of the risk. Hence it should at once arouse suspicion for a man to seek, or be willing to accept, more ins. than his property is worth. (p. 19.)

See **DOUBLE INS.**; **FULLY INSURED**; **OVER-INS.**; **SELF-INS.**

FULLY INSURED (FIRE).—There is another aspect of the question of being insured for full value which differs from the last named altogether; it is this: The great majority of losses are *partial* only. It is clear that in such cases the larger the relative amount of ins. is to the value of the property, the smaller is the amount of loss to the underwriter. Hence it is questionable whether in all cases of ins. *without average* [in an Average Fire Pol. this point cannot arise] the underwriters should not insist upon the property being insured for somewhere about its “full value,” which is very different from insuring an excess value. Mr. Griswold, considering this point, says, “The logical deduction from this proposition is, that a pol. approximating in amount the full value of the property *should not pay as much premium as a pol. for one-fourth or one-tenth of such value only.*” [**ENHANCED VALUES.**] [**PARTIAL INS.**] [**RELATIVE AMOUNT OF INS.**]

FULLY PAID-UP SHARES.—Under the Cos. Act, 1867, a Joint-Stock Co. limited or otherwise may have some of its shares fully paid-up and others not so—and may pay dividends upon the amount actually paid up. The 25th sec. of that Act declares that every share shall be deemed and taken to have been issued, and to be held subject to the payment of the whole amount thereof in cash, unless otherwise determined by a contract in writing to be filed with the Regis. of Joint-Stock Cos. before the issue of such shares.

Under the previous state of the law many questions occurred regarding paid-up shares ; and some arise even now. [LEGISLATION FOR AND AFFECTING INS. ASSO.]

FULMINATION.—The explosion which takes place in chemical bodies by friction or heat. Hence *Fulminating Mixtures*, which fall within the designation of explosive substances.

FUMAGE [or FUAGE, or FOUAGE]—Vulgarly called *smoke-farthings*. A tax formerly paid to the sovereign for every house that had a chimney. It is prob. that Hearth-money took its rise from this practice.

FUMIGATION.—The diffusion of certain vapours through the air, for the purpose of destroying contagion and infection : goods are also fumigated for the same purpose. Acid vapours have frequently been used with this intent ; there are, however, few which are very effectual, and some of them, such as vinegar, only serve to cover bad smells, without destroying noxious effluvia. There is no disinfectant so certain in its effects as *chlorine* ; it is cheap and easily obtained. In inhabited rooms it requires to be cautiously used in consequence of its bad effects upon the respiratory organs ; but even here it may be so extensively diffused as to be effective in destroying noxious matters, without serious injury to persons who breathe the atmosphere. Of all common diseases, the scarlet fever is that which appears to require the most scrupulous attention to careful fumigation.—*Brande.*

Arcon, a physician of Argrigentum, is said to have first caused great fires to be lighted, and aromatics to be thrown into them, to purify the air, and thus to have stopped the plague of Athens, and other places in Greece, about 473 B.C. [PLAGUES.]

FUNCTION (from the Latin *fungor*, to discharge an office).—In Physiology, the office of an organ, as of the heart in circulation. Hence *vital functions* : functions immediately necessary to life, as those of the heart, brain, lungs, etc. So again, the *animal functions*. In Algebra, one quantity is said to be the function of another, or of several others, when its value depends upon those of the latter. Functions here receive distinctive names according to the *nature* of their dependence.

FUNCTIONAL DISEASE.—Such changes as have no recognized morbid anatomy, but depend upon corresponding changes in the finer processes of nutrition. In other words, diseases in which the pathology is obscure.

FUNCTUS OFFICIO.—Having discharged a duty.

FUND FOR A PROVISION FOR THE WIDOWS AND CHILDREN OF THE MINISTERS OF THE CHURCH, AND OF THE HEADS, PRINCIPALS, AND MASTERS OF THE UNIVERSITIES OF SCOTLAND.—Founded in 1743. A hist. more or less detailed of this important inst. will be given under WIDOWS FUNDS at this date.

FUNDER, W. O.—Was Man. of the London branch of the *Azienda Assicuratrice* of Trieste from its estab. in 1867 down to 1870, when he ceased to represent the Co. He afterwards raised actions against the Co., claiming no less a sum than £28,000 ; and he obtained an award against the Co. for £9071 6s. 9d. A suit in Chancery to set aside this award (in 1872) was unsuccessful. It was alleged by the Co. that in consequence of the mismanagement of the Man., the Marine Ins. bus. of the branch had proved very disastrous.

FUNDING SYSTEM.—Supposed to have been estab. in *Venice* in 1173, and extended to Florence in 1340. The English funding system took its rise about 1690. See PUBLIC FUNDS. [CONSOLS.] [HOLLAND.] [SOUTH-SEA BUBBLE.]

FUNDS OF INS. ASSO., INVESTMENT OF.—See INVESTMENT OF FUNDS OF INS. ASSO. [CONSOLS.] [PUBLIC FUNDS.]

FUNDS, PUBLIC.—The name given to the public funded debt due by the Government. [CONSOLS.] [PUBLIC FUNDS.]

FUNERAL ALLOWANCE.—A specific allowance made by Friendly Sos. on the death of their members or their wives, towards the expenses of interment. The allowance varies in different Sos.—ranging from £3 to £10 or upwards for an adult. Burial Clubs also provide a specific sum towards interment, frequently larger than that provided by F. Sos. [BURIAL CLUBS.] [FRIENDLY SOS., LAW AND PRACTICE OF, sub-heading *Limitation of Sums Insured.*] [FUNERALS.]

FUNERAL BRIEFS.—The custom of “*Kings Briefs*,” originally issued under Royal authority in view of obtaining pecuniary assistance—before the days of Ins.—for those who had sustained great calamities by fires, etc. [FIRE BRIEFS], has been perpetuated, in a rudimentary form, in certain Burial Sos. which still exist in the West Riding of Yorkshire, and perhaps in a few other parts of the kingdom. There is really, however, little more analogy than that of name. Briefs in early times were sent all over the kingdom, and collections publicly made upon them. They are now sent only to certain enrolled members or families. The plan, therefore, is really that of the early “*Contribution Sos.*” When a member dies, all the other members are called upon to contribute a sum

towards his funeral expenses. In these Burial Sos. sometimes the whole family is enrolled, sometimes the individual members only. Where the contribution is per family, with the right of benefit to every member of it, it is certain that large families secure an increased advantage; but where couples join when they first marry, the chance is reduced to an average.

There was, in 1872, an asso. designated a "Funeral Brief" existing at "Saltaire" (West Riding) with 3000 members; another near Bolton (Lancashire) with 4000 members, or more.

FUNERAL CHARGES.—An executor or administrator should bury the deceased testator, or intestate, in a manner suitable to the estate he has left, and the expense of the burial will be allowed before other debts and charges; but if the personal representative be extravagant, he commits a *devastavit*, for which he will be answerable to the creditors or legatees.—See FUNERALS.

FUNERAL INS. CO.—A scheme under this title was regis. in 1854, but did not proceed further under this designation.

FUNERAL INS. SCHEMES (GENERALLY).—As the Gilds commenced to emerge from their orig. social and industrial constitutions into civil and even political institutions, it became necessary for persons who would otherwise have become as of course their members, to seek for the accomplishment of certain of their objects in other directions. It is prob. in this manner that Friendly Sos. and Burial Assos. took their origin, and finally became a necessity.

While the regulations of many of the Gilds made particular mention of the Burial of their members, it is very certain that they also afforded provision during sickness, accidental injury, and such other casualties as most usually beset those who composed them. All these functions have since merged into Friendly Sos., in which the provision of an allowance for funeral expenses is always a prominent feature. Burial Sos. appear to have, at least orig., been an adjunct of these—intended to apply to wives and children more particularly.

We have, under BURIAL, given some account of the Roman Burial Clubs; while in our history of *Friendly Sos.* [FRIENDLY SOS.] we have again treated of the subject in greater detail. Of *Burial Sos.* as constituted in more modern times we have spoken in the same art., under date 1818, and still more particularly under date 1874.

We purpose here to notice a few specific schemes for Funeral Ins. which have escaped mention elsewhere. Some of these are indeed of a character quite unique.

1801.—Sir F. M. Eden, in his *Obs. on Friendly Sos.*, quotes the following from the prosp. of a Burial So. in London, in which all persons from 14 to 60 inclusive were admitted on the same terms:

A favourable opportunity now offers to any one, of either sex, who would wish to be buried in a genteel manner, by paying 1s. entrance and 2d. p. week for the benefit of the stock. Members to enter above 14 and under 60 years of age, if approved of, and to be free in 6 months from the day of entrance. The deceased to be furnished with the following articles: a strong elm coffin covered with superfine black, and furnished with two rows, all round, close drove, with best black japanned nails, and adorned with rich ornamental drops, a handsome plate of inscription, angel above the plate, and flower beneath, and 4 pair of handsome handles, with wrought grips; the coffin to be well pitched, lined and ruffled with crape, a handsome crape shroud, cap, and pillow. For use, a handsome velvet pall, 3 gentlemen's cloaks, 3 crape hat-bands, 3 hoods and scarves, and 6 pair of gloves, 2 porters equipped to attend the funeral, a man to attend the same with band and gloves; also the burial fees paid, if not exceeding one guinea.

It was announced that the number of members who had already entered up to 1st Sept. 1800 was 337.

1825.—An almost *fac-simile* of the prosp. of 1801 was being issued in Fleet Market this year in the form of a hand-bill. The money was at this date to be paid at Mr. Middleton's at the sign of the "First and Last," Stonecutter Street, Fleet Market.

1845.—About this date, or soon after, there was advertised in the public newspapers: *The Diocesan Mortual Ins. and Funeral Estab.*, Hyde Park House, 12, Edgware Road, with Thomas H. Taunton, B.A. Oxon, Sec. The scheme purported to be for the issuing of pol. "to the families of the Clergy, learned professions, and others, guaranteeing them against the entire funeral expenses at the death of their members, by a small monthly, quarterly, or ann. payment." It also stooped to the wants of the "poorer classes" in the same direction. Under its alphabetical title we have already set forth its features in more complete detail.

1854.—The *Funeral Ins. Co.* was projected and regis., but did not advance beyond this stage.

Same year the *Metropolitan Counties Cemetery and Interment Assu. Co.* was also projected, with the object of providing a sum of money to provide for expenses of interment, mourning, etc. The scheme itself was quietly but speedily buried—in oblivion. We shall give a full account of the scheme under its alphabetical title.

1858.—The *Infants Funeral F. So.* was found to be existing in Doncaster this year; but was understood to have been founded some years previously. This So. had in 1867 some 2013 members enrolled, with funds in hand of £277. In 1871 it had 2138 members, but its funds were reduced to £181. By its rules, children are entered not younger than 1 year, or older than 14 years. After six months the benefit is £1; after

12 months £3; and after 10 years £4. The contributions are 1*d.* p. month, and are paid at the meeting place of the So. No collectors are employed.

The income during the 5 years 1867-71 from contributions and fines was about £545. The cost of management during the same period was about £97—or about 18 p.c. on an average. The lapses during the same period were 296, or an average of 3 p.c. p.a. Vide *Stanley's Rep.* (1874), p. 208.

The Rep. of the late Registrar of Friendly Sos., pub. this year, contained the following: The returns received up to the end of March from *Burial Sos.* amounted to 150, out of which number only 136 were available for the purpose of this Rep., the remaining 14 being very imperfect in the details. Of the 136 no less than 62, or about one-half, came from Lancashire and Kent—Kent sending 22, and Lancashire 40; and it is a singular fact (observes the Registrar) that in these two counties Burial Sos. seem to find more favour, to have deeper root, and to be more numerous than in any other part of the kingdom. It is difficult to account for this peculiarity, as there seems to be little in common between the two counties which would especially direct the minds of the inhabitants to this particular species of ins., more than to any other. One district consists of a manufacturing population, the other is throughout almost exclusively agricultural. The two counties referred to have more Burial Sos. estab. in them than all the rest of E. and W., and the large number of their members shows that their inhabitants generally are anxious to secure a provision for their burial. 123 of the returns state the number of deaths which have occurred during the past year (1857). The total number of deaths during the year in that number of Sos. is 5397, and as 125 Sos., with an average of 1600 members each, gives a total of 200,000 members, it appears that the average mort. in these Sos. is 2·698 p.c., or more than twice the average amount of mort. experienced in the ordinary Friendly Sos.; this increased rate of mort. is what might be expected on account of the large number of infants and children which are entered as members on the books of these Sos.

The Reg.-Gen. of Births, etc., in the rep. of the mort. experienced in E. and W. during the year 1857, states that the average rate was 2·176 p.c.; this gives an excess of mort. in the Burial Sos. of '522 p.c. over that experienced in E. and W., or, in other words, out of 1000 members of Burial Sos., nearly 27 would die in the course of a year, while out of the same number of the general pop. the number of deaths would be about 22.

1862.—There was this year founded the *Equity and Economical Reformed Penny Club for the Interment of the Dead*, held at the Boat-house, Oldfield Road, Salford. The rules were "deposited," but the then Sec. ingeniously devised a certificate of registration purporting to be signed and issued by the Regis. of F. Sos. This was discovered; apology made; and remainder of rules delivered up to be cancelled.

1864.—The *Pearl Life*, founded this year, has a scheme called "Family Assu.," but which we suppose really means *Funeral Ins.* It is as follows:

By the payment of a weekly prem. of 4½*d.* a whole family (not exceeding 9 members) will be entitled to the following benefits:

	£	s.	d.
At the death of the Father	6	0	0
" " Mother	4	0	0
" " Each Child from 10 to 18 years	3	0	0
" " " " 6 to 10 "	2	0	0
" " " " 6 months to 6 "	1	10	0

A family (not exceeding 5 members) will be entitled to the above benefits by the payment of a weekly prem. of 3*d.* Minors on attaining 18 must assure under T. No. 1 [weekly prems. for specific sum at death], and the age of the parents must not exceed 45.

1873.—A Richmond (U.S.) newspaper during this year contained the adv. of the *Undertakers and Burial Ins. Co.*, wherein, under the trade-mark of a gorgeously gotten-up corpse casket, the "undersigned" agree to furnish promptly to all persons in *good health*, under 40 years of age, for \$1·00 p.a. (higher ages up to 55 in proportion, but not more than \$3·00), the following things needful for a funeral, to wit: A silver-mounted coffin, case, hearse and 4 carriages, in the event of the death of the party insuring for such a contingency. The proposal is kindly qualified by the agreement that if the 4 carriages should not be wanted (that is, if the dear departed does not happen to have 16 mourning friends), \$2 will be allowed for each carriage not used; or, if the family prefer to do their own planting, or a society "undertakes" the job, a liberal compensation will be allowed in lieu of the trappings above enumerated. There are several other conditions and provisos calculated to make things easy for those who go into this new and funereal plan of ins. The parties who are the promoters of the enterprise are respectable undertakers and coffin dealers, who offer to attend funeral services at the shortest notice—which is a desideratum in a locality where a good many persons, as to shuffling off the mortal coil, stand not on the order of their going but go at once. In setting forth the facts, and along with an offer to sell coffins at 25 p.c. less than any other dealers in the article in Richmond, occasion is taken to state that "satisfaction is guaranteed." The natural query is, who is to be satisfied, the dead or the living? But only think of the business of ins. being *run into the ground* in this fashion!—*Evening Mail* (N. Y.).

FUNERALS.—The consideration of these engrafts itself upon our attention from several points of view. It would seem as if one of the first incitements towards asso. for a common object, was that of securing decent, and so to speak, Christian interment. Thus all the earliest Social Gilds of which we have any knowledge made it a feature that the members should have suitable burial, at the cost of the common funds; and, further, all the survivors were usually expected and sometimes required to attend the funerals of their brother members. It is difficult to trace this desire back to its origin.

The first people who celebrated funerals with special ceremonies are supposed to have been the *Egyptians*. That the *Greeks* attached great importance to the burial of the dead we know from many authorities. They believed that souls could not enter the Elysian Fields till their bodies had been buried. So strong was this feeling that it was considered a religious duty to throw earth upon a dead body found unburied. The neglect of burying one's relatives is frequently mentioned by their orators as a serious reproach upon the moral character of a man. For an account of the common customs connected with a Greek funeral we must refer the reader to *Smith's Dict. of Greek and Roman Antiquities*, art. "Funus," upon which we have drawn. It is enough to state that Solon (who flourished about 600 years B.C.) endeavoured to introduce some sensible reforms into the customs associated therewith. The funeral usually took place after the third day, early in the morning before sunrise. The bodies were sometimes burned, but this prob. was never general with the Greeks.

The *Romans* had customs differing from the Greeks: but they too paid great regard to the rites of interment. There were two kinds of funerals, public and private: to the former persons were invited by a herald. It was usual for a testator to provide a sum of money in his will to pay the expenses of his funeral, but if he did not do so, nor appoint any one to bury him, this duty devolved upon the persons to whom his property was left; and if he died without a will, upon his relations, according to the order of succession to the property. The expense to be incurred in such case was determined by an arbiter, and was regulated by the rank and property of the deceased. The funeral took place on the eighth day after death. In earlier times they had been always performed at night; but afterwards it was only the poor who were so buried, because they could not afford to have any funeral procession. In earlier times, too, the Romans usually buried their dead; it was only about the time of the Republic that the burning of bodies became general.

Are we to suppose from all this, first, that the ancients had any knowledge of the disinfecting power of the soil; and that they resorted to cremation finally as a still more certain sanitary specific?

The northern nations of Europe at one time burnt their dead; but the custom of interring the body had become estab. among the *Anglo-Saxons* at the era when their hist. began to be recorded by their Christian clergy, and was never discontinued. This is upon the authority of Sharon Turner, in his *Hist. of the Anglo-Saxons*, who adds:

Their common coffins were wood; the more costly were stone. Thus a nun who had been buried in a wooden coffin was afterwards placed in one of stone. Their Kings were interred in stone coffins; they were buried in linen; and the Clergy in their vestments. In two instances mentioned by Bede, the coffin was provided before death. We also read of the place of burial being chosen before death, and sometimes of its being ordered by will. With the common sympathy of human nature friends are described as attending, in illness, round the bed of the deceased. On their departure we read of friends tearing their clothes and hair. One who died is mentioned as having been buried next day. As Cuthbert, the eleventh Bishop from Augustin, obtained leave to make cemeteries within cities, we may infer that the more healthful custom of depositing the dead at some distance from the habitations of the living was the general practice; but afterwards it became the custom of England to bury the dead in the churches. The first restriction to this practice was the injunction that none should be so buried, unless it was known that in his life he had been acceptable to God. It was afterwards ordered that no corpse should be deposited in a church, unless of an ecclesiastic, or of a layman so righteous as to deserve such a distinction. All former tombs in churches were directed to be made level with the pavement, so that none might be seen: and if in any part, from the number of tombs, this was difficult to be done, then the altar was to be removed to a purer spot, and the occupied place was to become merely a burying ground.—vol. iii. p. 140 (4th ed.).

Passing to more modern times, we see in the Friendly So., in the Burial Club, and in Industrial Ins. Asso. generally, the chief, or one of the chief features, of their popularity rests in the fact of providing a sufficient sum for a proper funeral. There have, too, been special Funeral Ins. Sos., of which we have spoken under a separate head.

All that we propose to do here is briefly to review the literature of the subject; and to add a few facts, with some statistics on the cost of funerals, regarded as an item of national expenditure.

1569.—Funeral feasts are said to have been common in Eng. prior to this period; but they were now prohibited in view of preventing the spread of the Plague. (See 1876.)

1599.—Sir William Dethick, Garter Principal King of Arms, pub.: *Antiquity of Ceremonials used at Funerals*. This is included in Hearn's Collection.

1619.—In Pyrrard's *Account of his Captivity in the Maldiv Islands* [Indian Ocean], 3rd ed. p. 177, he mentions the word "Capon" as signifying "a store of money laid up in each family against funerals." We do not trace any similar reference elsewhere.

1658.—Sir Thomas Browne pub.: *Hydriotaphia, or Urn Burial*; written in a very quaint style, with a great many classical allusions. The author says: "Man is a noble animal, splendid in ashes, and pompous in the grave."

1660.—Francis Tate, a lawyer and antiquary, pub.: *Antiquity, Variety, and Ceremonies of Funerals in England*.—See *Hearn's Discourses*.

1682.—There was pub. by Paul Lorrain, Ordinary of Newgate: *Rites of Funeral, Ancient and Modern, in use through the known World*, etc., written orig. in French by Mons. Muret. This is a most instructive work. It commences with the funeral rites of the Egyptians, which its author regarded as being the most ancient of people, and then passed on to Greece and more modern nations. This work was dedicated to Samuel Pepys.

1695.—There was enacted the 6 & 7 Wm. III. c. 6, under which was imposed (*inter alia*) a duty or tax on burials—ranging from 4s. up to £50, according to the rank of the person dying. We shall give full details of this measure under HUMANITY TAX.

1699.—The funeral of Sir John Cutler, this year, cost £7000. (See 1811.)

1702.—The Rev. Edward Mores, M.A., Rector of Tunstall, Kent, pub.: *Funeral Entertainments*. 12mo.

1771.—In Hearn's Collection, ed. of this year, was included a tract written more than a century previous by the learned antiquary Arthur Agard, bearing the title of *Antiquity of Ceremonies used at Funerals in England*. Whether this had been separately pub. we do not learn. In this same Collection was included a discourse by Joseph Holland on the *Antiquity of Ceremonies and Funerals*.

1801.—There was pub. in Paris by Mons. J. Girard, *Des Tombeaux*, etc. *On Tombs; or, On the Influence of Funeral Institutions over Manners or Morals*.

1811.—The funeral of Mr. Cooke, the great sugar-baker, at Pentonville, was on a very grand scale; but the cost is not stated. The lower orders mobbed the procession.

1825.—During the speculative mania which set in at this date, there were various projects for Funeral Cos., Cemeteries, etc. In the prosp. of one which was to have a cap. of £200,000, in shares of £25, there was the following:

Subscribers on or before the 30 day of June, 1830, will be entitled to tickets of precedence, after the rate of one ticket for every 5 shares; *which ticket will entitle the holder to a preference, according to the numerical order of the shares, in the choice of a situation for a grave or a monument*. These tickets to be transferable without the shares upon which they have been granted, and capable of being held by persons who may not be subscribers or proprietors.

Those who would see the full force of the humour which this scheme induced on the part of Theodore Hook, must consult his "Life and Remains," by Barham (vol. ii. pp. 278-82). We can only give a passage bearing upon the para. above quoted:

Now, however seriously captious sticklers for rank and pre-eminence may regard the article of precedence, we must say that the case of going out of the world differs a good deal from that of going out of a drawing-room; and we suspect, if the Committee of this deadly lively So. could contrive to invert the order of departure, they would dispose of a much greater number of shares than are likely to go off under "existing circumstances." To the pleasure of walking about a burying-ground, with a plan in one's hand, like the Opera House box-book, to select a good place, we confess ourselves somewhat insensible; but we have no doubt that if this job takes, in less than 5 years we shall see "Graves in a good position to be let" posted at Sam's and Eber's, and "a transferable admission to a catacomb" to be sold for the season, just as a ticket for the pit is at present.

This amusing author in fact drew up a "Prospectus for a General Burying Co.," with a cap. of £500,000, in shares of £50.

1836.—There was pub.: *A List of 130 Burial Dues charged at Churches, Chapels, and Grounds, with other useful Information; collected to save Time and Trouble to the Trade*. "May be had, price 1s., of J. Beswick, 2, Brown's Buildings, Stanhope Street, Clare Market."

1839.—There was pub.: Walker's *Gatherings from Grave Yards, with Concise Hist. of Modes of Interment among different Nations*.

1843.—Mr. Edwin Chadwick, in his Supplemental Rep. on Interment in Towns, pub. this year, made an estimate of the cost of funerals in E. and W. The 66,748 funerals in the metropolis in 1839 entailed a cost of £626,604; and his proximate estimate of the total cost of the entire number of funerals in E. and W. that year was £4,871,493. He ascertained that the expense of pauper funerals in London was 13s.; of artisans £5; tradesmen of the second class, etc., £27 10s.; tradesmen of the first class £50; gentry and the higher classes of people £100; while the expenditure on the funerals of children under ten years of age of the corresponding classes, excluding paupers, ranged from 30s. to £30. The average cost of funerals of every rank above paupers in London he took at £14 19s. 9d.; and including paupers at rather less than £10. (See 1864.)

1849.—Dr. Lyon Playfair, M.P., estimated that from the 50,000 interments which then took place annually in the metropolis, no less a quantity than 2½ millions cubic feet of gases were emitted, "the whole of which, beyond what is absorbed by the soil, must pass into the water below, or the atmosphere above."

1864.—In the 27th Rep. of the Reg.-Gen., Dr. Farr reverts to the cost of funerals in this country, reviewing the figures which we have given under date 1843, and says thereon:

I am aware that the cost of funerals of persons of rank runs up to £1000 or £1500, and that workmen's clubs pay commonly £10 for burial; but I am disposed to think that Mr. Chadwick's estimate is too high for the whole pop., in town and country. Instead of his figures, I take the average cost at £6, and then the amount the nation expends ann. on the burial of its dead is £2,973,186. This includes only expenses that figure in undertakers' bills. It neither comprises the extra cost of

mourning, nor the expenditure in memory of the dead on monuments, or friable stones, which will be obliterated, or crumbled into dust long ere the national lists of the dead in the custody of the State have perished (p. 188). [GRAVESTONES.]

1871.—In the City of Bombay this year, 11,591 bodies were buried; 4143 were burnt; and 980 exposed to birds on the Towers of Silence.—See *Rep. on Sanitary Improvements in India*, 1873, p. 600.

1874.—In the *Contemporary Review* for Jan., Feb., and March of this year were articles by Sir Henry Thompson, describing the advantages of "Cremation" as a means of disposing of the dead, in an economic as also a sanitary point of view. Mr. Holland, Medical Inspector of Burials, combated some of the preceding arguments in the Feb. number of the same periodical, and elicited a keen reply. Sir Henry contended that by cremation something like 1 million sterling p.a. might be saved as against the cost of earth-burial in Lond. alone!

1875.—In the Supplement to the 35th Ann. Rep. of the Reg.-Gen., Dr. Farr devotes a section to "The Dead," and therein considers *Embalming, Cremation, Inhumation; Vaults, Churchyards, Cemeteries, Urns*, etc. Those who desire to know more of the subject than we can here give, should consult this able publication, p. lxxii.

Mr. Seymour Hayden, F.R.C.S., this year pub. : *Earth to Earth; a Plea for a Change of System in our Burial of the Dead*. His method was to inclose the body in a slight wicker basket covering, so that the earth could readily perform its functions of disinfection. His theory embodied the following propositions :

1. That the natural destination of all organized bodies that have lived, and that die on the earth's surface, is the earth.

2. That the evils which the Cremationists would have us to believe to be inseparable from the principle of interment are independent of that principle, and wholly of our own creation.

3. That the source of these evils is to be found not in the burial of the dead, but in the increasing sentiment which prompts us to keep them unburied as long as possible, and then to bury them in such a way that the earth can have no access to them.

4. That the burial of the body supposes its resolution by the direct agency of the earth, to which we commit it; and that the earth is fully competent to effect that resolution.

5. That the remedy for such evils is not in cremation, but in a sensible recognition of, and timely submission to, a well-defined law of nature; and in legislative action to enforce the provisions of that law.

1876.—The fear which prevailed in 1569, and which then led to the discontinuance of Funeral Feasts, again presented itself. In an art. in the *Lancet* it was said, "There is good reason to believe that disease is occasionally disseminated through the medium of funerals. We have at least one fairly authenticated instance in this country of Diphtheria being diffused broadcast through the crowding incidental occasionally to the last ceremony."

In the U.S., too, the same question was attracting attention. The Suffolk District Medical So. (Massachusetts) had taken action in the matter. It sent out circulars to 400 members of the profession soliciting an expression of views as to the danger of public funerals in Diphtheria cases. The answers received numbered 239—of these 143 writers expressed a belief in the possible danger of contagion; 17 others believed in the danger in the houses of the deceased, but not in the churches; 8 advanced facts in proof of danger; while 29 considered that in the present state of our knowledge there was no justification for the prohibition of public funerals.

1877.—There was issued (in July) a Parl. volume, extending to 467 fo. pages, obtained by Mr. Osborn Morgan, M.P., showing the number of burial-places, with the pop., in each county in E. and W. The grand total of the pop. was stated at 22,712,266; the number of consecrated places of worship at 15,468; the total number of churchyards as burial-places, 13,673, of which 12,262 were open and 1411 closed; the number of consecrated burial-grounds provided under the Church Building Act as enlargement of such churchyards, 1169, of which 1146 are open and 23 closed; the number of burial-grounds separated from such churchyards, 393, of which 328 are open and 65 closed; the number of unconsecrated places of worship, 20,490; the unconsecrated burial-grounds attached to such unconsecrated places, 5074, of which 4111 are open and 963 closed. There were 657 other burial-grounds, and 282 consecrated. Besides this number there were 273 other unconsecrated burial grounds not in the description, of which 255 are open and the rest closed. In Middlesex the pop. was returned as 2,539,765, the number of consecrated places of worship 509, and 233 churchyards. There were 611 unconsecrated places of worship.

[BURIAL.] [CEMETERIES.] [INTRAMURAL INTERMENT.] [MASS.] [PURGATORY, INS. AGAINST.] [PUBLIC HEALTH.] [SANITARY IMPROVEMENTS.] [TOWNS.] [VITAL STATISTICS.]

France.—In this country the funeral announcements of persons in genteel life are made in the city or local newspapers after the following manner, frequently occupying a dozen lines or more :

Mr. and Mrs. Adolphus Jones, born Robinson; Mr. and Mrs. Jeremiah Brown and their children, born Smith; Miss Jenkins; Mr. and Mrs. Williams, born Jones, and their children; Mrs. widow Johnston, born Jones, and her children; with (say half-a-dozen) other names, have the honour to announce to their friends and relations the cruel loss which they have just sustained in the death of Mr. Charles Anthony Jones, retired Custom-house officer, their father, father-in-law, brother-in-law, grand-father, uncle, cousin, and relation, who died—February, aged—years, provided with the Sacraments of the Church, and beg them to attend the funeral procession which will take place on—

at — o'clock from the house No. — —. Any persons not having received a notice by letter of this sad event will please accept this announcement.

Germany.—In this country it appears that the cost in connexion with funerals is mainly under Gov. control. An officer designated the “Leichen-bitter” is appointed in each district, and he regulates the procession very much according to the social rank of the deceased; and all the charges are made in conformity with a recognized tariff.—*Vide* Mr. J. A. Crowe's evidence before Royal Commission (1870) on F. Sos. 3rd Rep. p. 7.

FUNGÖID THEORY OF CONTAGIOUS DISEASES.—It is contended by one school of medical authorities, of which Prof. Hallier, of Jena, is at the head, that all contagia consist of vegetable parasites; and the figure and name of the parasitic fungus of each of the acute specific diseases have been set forth by Dr. Hallier. The subject is too learned, as well as too remote from our present purpose, for us to enter upon further than to enable our readers to understand the meaning of the term when they come across it. It constantly occurs in relation to the origin of what are termed contagious diseases. The one school contends that diseases of this class may have an independent or spontaneous origin (which theory belies their very name); the other that they cannot possibly arise in any other way than by contagion, and that the introduction of the poison has merely eluded observation.

Hallier states that the two maladies in which he has studied the matter most, viz. cholera and sheep-pox, may arise independently of pre-existing cases, through the agency of minute fungi growing upon the rice-plant, and upon blighted darnel.

Murchison, in his *Continued Fevers in Gt. Britain* (2nd ed. 1873), says: “The parasitic theory rests solely on analogy, and is unsupported by facts.”

The subject has been already incidentally discussed under CONTAGIOUS DISEASES, as also under FEVERS, ARE THEY CONTAGIOUS? It will be further dealt with under PARASITIC THEORY OF DISEASE; and also under ZYMOTIC DISEASES.

FURNACES.—The conditions of Fire pol. frequently stipulate that in the ins. of buildings which contain any steam engine, *furnace*, kiln, stove, oven, or other appliance in or by which heat is produced (common fireplaces, stoves, or ovens in private use, excepted), the construction and circumstances of the same must be particularly described at the time of effecting the ins.; or if subsequently introduced either in the building insured or in any addition thereto, due notice must be given to the Co., and the same sanctioned by them, otherwise the pol. will be void.

Captain Shaw, in his *Fire Surveys* (1872), points out the importance of having the boiler furnaces in manufacturing premises away from direct contact with the main buildings (p. 66).

In *Canada*, the northern portions of the U.S., and in *Russia*, and the north of Europe generally, stoves, frequently called *Furnaces*, are used for creating hot air to be conveyed through pipes for warming the buildings. These greatly increase the fire risk.

FURNES, CUSTOM OF.—An ancient custom prevailing on the continent of Europe, regarding compulsory contributions in the case of fire.—See FIRE INS., HIST. OF, under date 1240. The town of Furnes is located in W. Flanders—now Belgium.

FURNITURE.—In the early days of Fire Ins., the risk of furniture was not recognized, or even contemplated. This we have shown under title FIRE INS., PRACTICE OF. It was in 1704 the ins. of “household goods” became possible; but it was the *Sun Office* that in 1710 made a feature of this branch of bus.

In 1802 Sir F. M. Eden, Bart., estimated the value of furniture in the houses of Gt. Britain at 135 millions, with an add. for plate, jewels, trinkets, linen, wines, etc., of 55 millions, making a total of 190 millions—or a little more than half the value of the houses. The increase has been simply prodigious since that period; and there is now to be added pictures and works of art. The whole prob. has an insurable value of at least 500 millions—but the whole is not insured. In many instances the contents of the houses have an insurable value many times greater than the value of the house itself. On the other hand, in the dwellings of many of the labouring classes, the contents have a value merely nominal. But happily an improvement is steadily going forward. [*Vide Statist. Journ.* vol. v. p. 81.]

The rate for the ins. of furniture is usually about 50 p.c. more than for the house which contains it, and then there is a limit as to the sum to be paid on works of art not specifically insured and paid for. [FIXTURES.]

FURNITURE OF A SHIP.—See SHIP'S FURNITURE.

FURTHER ADVANCE, OR CHARGE.—A second or subsequent loan of money to a mortgagor by a mortgagee, either upon the same security as the orig. loan was advanced upon, or an add. security. Equity considers the arrears of interest on a mortgage security to be converted into principal, by agreement between the parties as a further advance.

FURTHER ASSURANCE.—A legal designation for one of the covenants entered into by a vendor for the protection of the purchaser's interest in the subject of the purchase. It is held to be confined to an assurance by way of conveyance, and not to extend to further obligations to be imposed on the covenantor by way of covenant.—*Lord St. Leonards; Woodfall.*

FUSIBLE PLUGS.—These are plugs made of a metal compounded to dissolve in a certain degree of heat. They are used with great success to prevent explosions in steam-boilers.

It has also been proposed to use fusible plugs of gutta-percha for stand pipes in mills, etc., so that the heat of approaching fire would liberate the water, and thus produce a self-acting fire extinguisher. [FIRE EXTINGUISHMENT.] [STEAM BOILER INS.]

FUSS, NICHOLAS VON.—Was born at Basle in 1755; and died in 1826. He studied under Bernouilli, and became a distinguished mathematician and natural philosopher. He accompanied Euler to St. Petersburg, and obtained distinction and preferment. He was a regular contributor to the Memoirs of the Academy of Sciences at St. Petersburg during a period of 50 years, and pub. various works, chiefly on mathematics and astronomy. He is quoted by Milne; and Mr. Brown says: The appearance of his first work prevented the estab. of an Annuity So. on an erroneous basis, and popularized the true principles to be followed.

He pub. the following works in St. Petersburg: In 1776, *Eclaircissemens sur les Caisses-Mortuaires*; and without date: *Eclaircissemens sur les Etablissemens Publics Tontines, sous la direction d'Euler*. As to this last Sir John Sinclair says in his Hist. of Revenue:

I was fortunate enough to purchase at St. Petersburg the description of a new species of Tontine, equally advantageous to the public and to the contributors; calculated by M. Fuss under the direction of the celebrated Euler, from which many useful hints might be drawn in regard to such estab.

FUTURE ESTATES.—Expectancies, which are, at the Common Law, of two kinds—reversions and remainders.

FUZMAN, FREDERICK.—Was Sec. of *Rent Guarantee* So. during 1850 and 1851.

FYFE, JOHN T.—Sec. of *Scottish Provincial*, in Glasgow, since 1869. He was trained to the bus. in the head office of the Co., which he entered in 1858, and passed through the various departments with success.

FYFE, W. NEILSON.—Inspector of Agents for the *London and Lancashire* Life since 1877. He commenced his Ins. career in 1870 as Agent for the *Gt. Britain* in Montrose. In 1875 he represented the same Co. in London. In 1876 he represented the *Gresham*. His success in these several positions led up to his present appointment.

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GABB, JOHN BAKER.—Was Superintendent of the *Alliance Marine* from 1851 to 1868.

GADDESBY, RICHARD.—Writing-master and accountant, pub. in 1757: *A Treatise of Decimal Arithmetic; or Decimals applied to the Common Rules of Arithmetic, the Computation and Arbitration of Exchanges, Interest Simple and Compound, Annuities for Years certain, also on Lives. With the Doctrine of Circulating and Repeating Decimals. Adapted to the Use of Schools, and the Man of Business.*

GAFFOLDLAND.—Property subject to the Gaffoldgild (payment of Custom or Tribute), or liable to be taxed.

GAINSBOROUGH (Lincolnshire).—Dr. Price, in the 3rd ed. of his *Reversionary Payments* (1773), announced that there had been kept in this town, "for many years," a Register of the christenings, weddings, and burials, in which were particularly distinguished "the number of each sex dying at every age in every month." He had obtained a copy of this Register, of which he gives the main results at p. 429-30. According to the T. which he gives, one-half of all that were christened in this town lived to 22 years of age; and 1 in every 25½ lived to 80—of whom the major part, "in the proportion of 49 to 32, are females." The town and parish then consisted of 920 houses, of which 161 were "in the hamlets and country round the town."

GALACTIA (from the Greek, *Milk*).—Mislactation; a morbid flow or deficiency of milk; the former affection has been termed *galactorrhœa*, or milk-flux. This is a disease regarding which careful inquiries should be made on the ins. of married women.

GALE, J. E.—Late Man. of *London and Lancashire Fire*, in Liverpool, with which Co. he had been connected since its commencement in 1862. He had been trained in the *Phoenix*. The circumstances which led to his retirement from the first-named Co. were of a very painful character—but did not culminate until 1876, before the Recorder at Liverpool. In the mean time he had held a position with an Ins. Co. in Bombay.

GALL, SAMUEL, "Esq."—Pub. in 1836: *An Essay on Contingent and Eventual Losses, and on Ins. as the means for their Indemnity*. A well-reasoned work. The contents are embraced in 10 chapters as follows: 1. The Collateral Evils of Natural Calamities. 2. Of Calculations by Way of Average. 3. The Use of Averages when ascertained. 4. Practice of Ins. 5. Friendly Sos. 6. Savings Banks, Gov. Annu. Sos., and Loan Sos. 7. Compulsory Legal Provision for Relief, Indemnity, and Compensation. 8. Proposed Schemes for promoting Frugality, etc. 9. The Economic Inst. of France. 10. Reflections on the Present State of Ins. Offices, Friendly Sos., etc.

GALE OF WIND.—The nautical term for a continued storm of wind; the lowest degree is the *fresh* gale, the next a *strong* gale, and the last a *heavy* or *hard* gale—called also a *whole* gale.—*Brande*.

GALIBERT, MONS., of Paris.—About 1865 he invented a respiratory apparatus capable of supplying atmospheric air to persons working under water, or in places filled with noxious gases or smoke.

GALILEO, the Great Astronomer, in his treatise *Considerazione sopra il Giuoco dei Dadi*, touched upon problems involved in the Doctrine of Chances; and in other ways gave attention to this question.—*CHANCE, DOCTRINE OF*.

GALL.—From the Greek, *Bile*—hence *Gall-Bladder* (*Cystis fellea*)—a membranous reservoir, lodged in a fissure on the under-surface of the right lobe of the liver, and containing the bile. *Gall Ducts.*—These are the ducts, proceeding from the Gall-bladder and the Liver respectively; with another resulting from the two preceding. *Gall Stones.*—Biliary concretions, found in the Gall-bladder.

GALL SICKNESS.—A popular name for the Walcheren fever, which proved so fatal to the English in the year 1809, and was attended with a vomiting of bile.

GALL, H. B.—For some years Act. of *Barbadoes* Mut., from which position he retired in 1862.

GALLATIN, J.—Pub. 1859: *The Usury Laws*. This work was prob. pub. in the U.S. It is mentioned in the "Subject Cat." of the N.Y. State Library at Albany; and we have not yet found a copy in the U.K.

GALLEONS, GALLIONS, OR GALLOONS.—These were ships employed by Spain for several centuries in the commerce of the West Indies. The Spaniards yearly sent two fleets; the one for Mexico, which they called the Flota; and the other for Peru, which they called the Galloons. The ins. of these ships for several centuries was an important element in maritime underwriting. The risk of capture by pirates and by the enemy was considerable. They were heavy unmanageable vessels. The name has also been applied to large and lofty ships of war.

GALLEY (from the French).—A low-built vessel propelled by sails and oars, either on a single tier, or on tiers of benches one above the other. The war vessels of antiquity were all galleys. These were likewise employed by the maritime nations of the middle ages in the Mediterranean. The Venetian galleys had a single tier only, and all modern galleys followed the same construction. These were formidable vessels in a calm, but unfit for a rough sea. The name *galley* is now applied to some of the smarter boats of a ship of war, as the *Admiral's Galley*, the *Captain's Galley*, etc.

GALLIA INS. CO., LIM.—Founded in Lond. in 1873, with an authorized cap. of £240,000, in 24,000 shares of £10, for the purpose of transacting Fire, Accident, Plate-glass, and other Ins. bus. in Gt. Brit., France, and elsewhere. The Co. was intended to take over the bus. of *La Gauloise* (Ins. Co.), founded 1869; but in consequence of some blundering on the part of the executive in Paris, this arrangement was never carried into effect, and the new enterprise passed out of existence.

GALLIOTT.—A strong and cumbrous bluff-bowed vessel used by the Dutch, having a main mast, and a mizen mast usually close aft.

GALLOWAY, THOMAS, M.A., F.R.S.—Was Registrar of *Amicable* So. for many years, down to 1852, and also Secretary to the Royal Astronomical So. He was the author of: *A Treatise on Probability*; forming the article under that head in the 7th ed. of the *Ency. Brit.* (1839); and which was afterwards pub. in a separate vol. now very scarce. This article is regarded as such a valuable exposition of the existing state of the science that it was reprinted in the 8th ed. with scarcely the necessity of revision.

In 1841 he completed an elaborate Rep. upon the Mort. Experience of the *Amicable* So., of which we have already given an abstract under *AMICABLE SO., MORTALITY EXPERIENCE OF.*

GALSWORTHY, EDWIN H., J.P., F.I.A.—Trained to the bus. of Life Ins. in the *Medical Invalid*, under Mr. Neison. He became Act. and Sec. of *Empire Assu. Co.* on its estab. in 1854, and remained so down to its amal. with the *Family Endowment* in 1857; when he became Act. and Sec. of the last-named Co., and so remained until the amal. of that Co. with the *Albert* in 1861. In 1863 he was Act. of the *National Union*; and in 1867 of the *Imperial Guardian*.

In 1853 he contributed to the *Assu. Mag.* some orig. T. of prems. for mariners' lives, deduced from Mr. Neison's obs. on this class of lives (vol. iv. p. 88).

GALTON, CAPTAIN DOUGLAS, C.B., D.C.L., F.R.S., etc.—Member of the Army Sanitary Commission from its commencement. In 1876 he read before Indian Sec. of So. of Arts a paper: *On Sanitary Progress in India.* [INDIA.]

GAMBLERS, OCCUPATION OF INSURED PREMISES BY.—In the case of *Lyon v. Commercial Ins. Co.*, before the Courts of Louisiana in 1842, it was held, that where premises are partly occupied by *Gamblers*, and the insurer objects, or expresses an unwillingness to insure property in the neighbourhood of gaming estab., it is a question for the jury whether the insured knew that the premises were so occupied; and whether the danger of fire was thereby greatly enhanced. In other words, whether he had knowledge of the fact, and whether its concealment or misrepresentation was material to the risk. (2 Rob. La. 266.)

GAMBLING INS. PROJECTS GENERALLY.—The tendency to pervert the beneficent objects which fall within the proper scope of Ins. (in its various branches) into a vehicle for gambling, has exhibited itself so many times, and in such varied forms, that it becomes exceedingly difficult to discover, trace, and finally expound them all. We have already dealt with instances more or less direct under *APPRENTICESHIP INS.*; *BARGAINS, INS. OF*; *BIRTH INS.*; *CHILDBIRTH INS.*; *CHRISTENING INS.*; *EXPECTED PROFITS*; and we have yet to speak of other developments under titles of "INTEREST OR NO INTEREST"; *INS. FRAUDS*; "LITTLE GOES"; *LOST OR NOT LOST*; *LOTTERY INS.*; *MARRIAGE INS.*; *PERSONAL ADVENTURE INS.*; *PROFITS, INS. OF*; *SERVICE INS.*; *TONTINES*; *VALUED POLICIES*; *WAGERS*; and prob. under other heads which do not at this moment present themselves. [INS. FRAUDS.] [USURY.]

Under the present general title we have to review certain general phases of this gambling spirit which do not directly range themselves under any of the titles yet named.

The earliest instances of Gambling Ins. are no doubt to be traced in dealings in *Bottomry Bonds*. The next, in ins. against the risk of *Crusading* [CRUSADERS] and of *Captivity by Pirates* [CAPTIVITY INS.]; but these only come within the scope of our present intention incidentally. In each of these there was primarily a *bond fide* risk to insure against; in each a legitimate, and useful object. We have no exact details of the dealings in the preceding cases, and must come down to a more recent period, before we reach the condition of things intended mainly to be surveyed and commented upon in the present art.

Mr. Hendriks thinks he discovers something of the wager system of ins. amongst the ancient Romans. In a contract mentioned in the *Digest* there is the following: "If such a ship arrives from Asia, I will give you such a sum; if it does not arrive, you will give me such a sum." This was a species of *Bottomry* contract, very prevalent in the East from the earliest historical periods. [BOTTOMRY.]

An early form of Gambling Ins. in Gt. Britain was of the *personal adventure* class: A traveller departing on any long or dangerous voyage deposited a specific sum in the hands of an ins. broker, upon condition that if he returned (usually within a given period) he should receive double or treble the amount he had staked; but in the event of his not returning the money he had staked was forfeited. It is prob. that the ins. in practice among the *Crusaders*, in add. to that against captivity, was of this character.—See *PERSONAL ADVENTURE INS.*

1560.—The Ins. Ordinance of *Bilboa*, under this date, of which we have not yet met

with a complete copy, is said to have contained a prohibition against ins. under any pretext of "Imaginary Gains." (See 1738.)

1588.—In the Civil Statutes of the Republic of *Genoa*, promulgated this year, is contained a prohibition against Gambling and Wager Ins. on a very extended scale. Thus :

"Securities, Bonds, or Wagers may not be made, without the License of the Senate, upon the life of the Pope, nor upon the life of the Emperor, nor upon the life of Kings, Cardinals, Dukes, Princes, Bishops, nor upon the life of other Lords or Persons, in constituted dignities, ecclesiastical or secular. Neither may they be made upon the acquisition, loss, or change of Lordships, Governments, Kingdoms, Provinces, Duchies, Cities, Lands, or Places, . . . nor upon any other transaction having the species or form of a bond, security, or wager (*vadimonii securitatis, seu partiti*) ; but all are understood and are forbidden."

The foregoing certainly implies speculation in such matters, somewhere, at a preceding date ? (See 1610.)

This is the class of "Life Ins." prob. which was intended to be discouraged in some of the later Ins. Ordin. of other countries and states.

1598.—The Ins. Ordin. of *Amsterdam* contains the following : "We expressly prohibit ins. of the life of any person, and likewise wagers upon any voyage of frivolous purpose ; and where they are made we declare them void."

1600.—By the Ins. Ordin. of the City of *Middleberg*, in Zealand, under date 30th Sept. this year there is the following :

"II. No assu. shall be made hereafter upon the life of any people, or persons, nor by way of *wager* upon voyages or such like inventions ; and in case it shall be done, it shall all be void and of no value."

1604.—The Ins. Ordin. of *Rotterdam* (as also that of 1635) repeats the injunction of the *Amsterdam* Ordin. of 1598.

1610.—Another issue of the Civil Statutes of *Genoa*, promulgated at this date [see 1588], contained the following extended prohibitions :

"Without leave of the Senate, no Assu., Security, or Wager, shall be made or given upon the life of the Pope, or upon the life of the Emperor, nor upon the lives of Kings, Cardinals, Dukes, Princes, Bishops, or other eminent persons, either spiritual or temporal. Neither may they be done upon the acquisition, the loss, or alterations of any Dominions, States, Kingdoms, Provinces, Dukedoms, Cities, Districts and places. Neither may they be done upon the successful or unfortunate issue of Enterprises of an Army or Fleet, nor upon their arrival or departure, nor upon the Taking or Defence of any place. They shall neither be made upon certain *Marriages*, whether they will be concluded or not ; nor upon the *Delivery of Women*, or the *Arrival or Departure of Ships*, etc. They shall not be made upon the *Plague's* or *War's* being impending, or not ; nor upon the *Election of the Doge*, or the *Senator* of the Republic, nor upon anything else which may have the appearance of a Deposit, Assu., or Wager, all things of that sort being absolutely prohibited."

It was further provided that those who acted contrary to the said regulations, should be fined every time for the sum assu., deposited or betted, and the brokers employed therein should pay the same fine as the offenders.

1643.—There was brought forward the following remarkable project, of which we give the "proposals" entire :

The Propositions of Captaine John Bulmer, in the Office of Assurance, London ; For the blowing up of a Boat and a Man over London Bridge :

In the Name of God, Amen. John Bulmer of London, Esquire. Master and Surveour General of the King's Majesties Mines Royall, and Engines for Waterworkes, propoundeth (by God's assistance) That he the said John Bulmer, shall and will, at and in a flowing water, set out a Boat or Vessel with an Engine, floating with a Man or Boy, in and aboard the said Boat, in the River of Thames, over against the Tower-Wharfe, or Tower. Which said Boat with the said Man or Boy in or aboard her, shall the same Tyde before Low-water againe, by Art of the said John Bulmer, and helpe of the said Engine, be advanced and elevated so high, as that the same shall passe and be delivered over London Bridge, together with the said Man or Boy in and aboard her, and floate againe in the said River of Thames, on the other side of the said Bridge in safety. And the said John Bulmer, for Him, his Heires, Executors and Administrators, doth hereby covenant and promise, that he the said John Bulmer shall and will performe and accomplish the premises, within the space of one moneth next after he shall cause intimation to be given into the Office of Assurance, London, that he is about or intends to put the same in practice : which Intimation shall so by him be given at such time, and so soone as the undertakers against him wagering six for one shall have deposited and left in the said office such a considerable summe of money, as the said John Bulmer may compute will countervail the charges of contriving the said Boat and Engine, and such other disbursements as shall arise and growe in prosecution of the said businessse. And he the said John Bulmer shall and will deposit his proportion of monies in the said Office accordingly. And the said monies so deposited by the said undertakers, and the said Bulmer, shall remaine in the said Office until the said Bulmer shall either have accomplished the same or the time expired for accomplishment thereof. And the said undertakers and every of them, shall subscribe and underwrite, such summe of money as they or any of them shall deposite, adventure, and wager, against the said Bulmer : which said monies so deposited by the said undertakers, and the said John Bulmer, shall be delivered to the said Bulmer (in case of performance of the premises), otherwise to the said undertakers. Dated the 6 of November, 1643. And all those that will bring in their monies into the Office, shall be there assured of their losse or gaine, according to the conditions above mentioned.

We have searched the newspapers of the period with the hope of tracing the termination of this adventure, but without success. We conclude it was not "floated."

It was prob. about the same date that a Mutual Ins. Co. was formed to aid an adventurer with funds to *raise a vessel* which, laden with the treasures of the East, had been lost on her passage home; the peculiar feature of the transaction being that if any of the association should die before the object was accomplished, their share was to be transferred to the remaining adventurers. This made the hazard a double one, by the introduction of the tontine principle.

1661.—The following Ins. wager made a short time previously was held to be good. For a prem of 20s. the sum of £20 was to be paid *if Charles Stuart should be King of England within 12 months then next following*—he being then in exile. Within six months his restoration came. The claimant under the wager sued the insurer and obtained a verdict. The insurer raised various pleas with a view to escape; but he was held to his bargain. This is the case of *Andrews against Herne*. The Court held, "That the consideration is good, for the words are to be taken according to the subject-matter: the King was at the time of the promise out of possession, and the promise is to be intended if he be in possession within the 12 months."—1 Levinz, 33.

1665.—The case of *Joy v. Kent*, before the Court of Exchequer this year (7 Car. II.) prob. arose under a Bottomry contract. The details furnished in Hardre's Rep. are very meagre, being as follows:

Debt upon an obligation, conditioned to pay so much money if such a ship return'd within 6 months from Ostend, in Flanders, to London, which was more the 3rd part than the legal interest of the money; and *if she do not return then the obligation to be void*. The deft. pleaded that there was a corrupt agreement betwixt himself and the plt., and that at the time of making the obligation it was agreed betwixt them, that he should have no more for interest than the law permits, in case the ship should ever return; and avers, that the obligation was entered into by Covin, to evade the Stat. of Usury and the penalty thereof: upon this averment the plt. took issue. . . .

Hale, Chief Baron: Clearly this Bond is not within the Statute: *For this is the common way of ins., and if this were void by the Stat. of Usury, Trade would be destroyed*. And it is not like to the case, where the condition of a Bond is to give so much Money if such or such a person be then alive; for there is a certainty of that at the time. But it is uncertain, and a casualty whether such a ship shall ever return or not. . . .

It seems probable that there were many other cases of a similar character before the Courts about this period. Some of these will be reviewed under title USURY.

1687.—There was before the English Courts the case of *Geang v. Swaine* [see Lutwyche's Rep. vol. i. p. 165]. This was an action upon a bond, conditioned, that in consideration of £12 paid by the plt. to the deft., he became bound to pay the said plt. £14 7s. 6d. *if he lived six months after the date of bond*. It was found that the bond was usurious, but that had not been pleaded; and so the plaintiff recovered. The form of bond was this:

. . . . Whereas the above bounden have received at or before the ensembling and delivery of these presents of the above named the sum of £ . . . of lawful money of England; and in consideration thereof, and *likewise in respect of the Age and Infirmy of body of the said* have agreed and are content to pay to him the said the sum of £ . . . on the being one month after the date of the above recited obligation; and in default thereof the sum of £ . . . of lawful money on being 6 months after the date of the said above-recited obligation, *if the said shall so long live*: but if the said shall happen to die before the said then it is agreed that the above said shall keep and retain to themselves the said sum of and also the interest thereof, and then and in such case the said *shall lose both his principal and his interest*. If therefore the said or any of them, their or any of their exors., etc., shall well and truly pay or cause to be paid unto the above said or his assigns, the said sum of £ . . . of lawful money of England, without int. on the or in default thereof the aforesaid £ . . . [increased by int. from the first-named period] of lawful money of England on or before the next ensuing, then this Obligation to be void: But if the said *shall live until the said being the time of payment aforesaid*, and the said sum of £ . . . shall be then unpaid, contrary to the Tenor of these Presents, then this obligation to be of full force and virtue.

Here is simply a life ins. contract turned inside outwards. The money was to be paid if the man lived until a certain agreed period. If he died before then, nothing was to be paid. This is precisely on all fours with a loan on Bottomry. If the ship arrives at its destination [*i.e.* survives the perils of the seas], the loan is repaid; if it be lost, it is not repaid.

There is reason to believe that many such contracts were made at this period. They were most prob. shaped in view of avoiding the Usury Laws. [USURY.]

1694.—The famous, but yet not generally known, John Houghton, in his Letters: *Husbandry and Trade Improv'd*, writing under date 22 May this year, speaking of the gambling dealings in stocks prevailing, says:

The manner of managing the Trade is this: the monied man goes among the Brokers (which are chiefly upon the Exchange, and at *Jonathan's* Coffee-house, sometimes at *Garaway's*, and at some other Coffee-houses) and asks how Stocks go: and upon information, bids the Broker buy or sell such and such stocks if he can, at such and such prices: thus he tries what he can do among those that have stocks, or power to sell them; and if he can, makes a bargain.

Another time he asks what they will have for refuse of so many shares: that is, how many guineas a share he shall give for liberty to accept or refuse such shares, at such a price, at any time within 6 months, or any other time they shall agree for.

For instance: when India shares are at £75, some will give £3 3s. a share, action, or £100, down for refuse at £75, any time within 3 months, by which means, the acceptor of the guineas, if they be

not called for in that time, has his share in his own hand as his security; and the £3 3s., which is after the rate of 12 guineas profit in a year for £75, which he could have sold for at the bargain making, if he had pleased; and in consideration of this profit, he cannot without hazard part with them in the mean time, though they should fall lower, unless he will run the hazard of buying again at any rate if they should be demanded: by which many have been caught, and paid dear for, as you shall see afterwards; so that if 3 months they stand at a stay, he gets the £3 3s., if they fall so much, he is as he was losing his interest, and whatever they fall lower is loss to him.

But if they happen to rise in that time £3 3s., and the charge of Brokage, contract and expense, then he that paid the £3 3s. demands the share, pays at £75, and saves himself. If it rises but one or two guineas, he secures so much; but whatever it rises to beyond what it cost him, is gain. So that in short for a small hazard he can have his chance for a very great gain, and he will certainly know the utmost his loss can be; and if by their rise he is encouraged to demand, he does not matter the further advantage the acceptor has, by having his money sooner than 3 months to go to market with again; so in plain English, one gives £3 3s. for all the profits if they should rise, the other for £3 3s. runs the hazard of all the loss if they should fall.

The form of contract or pol. then in use was the following:

In consideration of £ . . . to me A.B. of Lond., merchant, in hand paid by C.D. of Lond. . . . at and before the sealing and delivery hereof, the receipt whereof I do hereby acknowledge. I, the said A.B., do hereby for myself, my heirs, exors. and admors., covenant, promise, and agree to and with the said C.D., his exors., admors., and assigns, that I the said A.B., my exors., admors., or assigns, shall and will transfer or cause to be transferred to the said C.D., his exors., admors., or assigns, . . . shares in the Joint-Stock of the . . . within 3 days next after the same shall be demanded, as hereinafter is mentioned, together with all dividends, profits, and advantages whatsoever, that shall after the date hereof be voted, ordered, made, arise, or happen thereon, or in respect thereof (if any shall be); provided the said C.D., his exors., admors., or assigns, shall make demand of the said . . . shares personally by word of mouth of me, my exors. or admors., or by note in writing under his or their hand, and leave such note unto or for me, my exors. or admors., at my now dwelling-house situated at . . . at any time on or before the . . . day of . . . now next coming; and also pay or cause to be paid to, or to the use of me the said A.B., my exors., admors., or assigns, for the said . . . share, and dividends as aforesaid, within the 3 days next after demand, the full sum of £ . . . of lawful money of England at the place where the transfer book belonging to the said Co. shall for the time being be kept, together with all advance money (if any shall be). But if the said C.D., his exors., admors., or assigns, shall not demand the said . . . shares, as aforesaid, within the time aforesaid, and also shall pay, or cause to be paid to, or to the use of me, my exors., admors., or assigns, the said sum of £ . . . and all advance money as aforesaid at the place aforesaid, within the said 3 days next after such demand, then this present writing to be utterly void and of none effect; and the said £ . . . to remain to me the said A.B., my exors. and admors., for ever. Witness my hand and seal the . . . day of . . . 16—, in the . . . year of the reign of . . . of England, etc. Sealed and delivered in the presence of . . .

1696-7.—There was enacted the 8 & 9 Wm. III. c. 32—*An Act to Restrain the Number and Ill Practice of Brokers and Stock-Jobbers*—aimed at the prevention of the Gambling Ins. transactions in stocks and bargains generally. It is recited:

And whereas diverse Brokers and Stock-Jobbers or pretended Brokers have lately sett up and carried on most unjust practices and Designs in selling and discounting Talleys, Bank Stock, Bank Bills, Shares and Interests in Joint-Stocks and other matters and things, and have and do unlawfully combined and confederated themselves together to rise or fall from time to time in the values of such Talleys, Bank Stock, and Bank Bills, as may be most convenient for their owne private interest and advantage, which is a very great abuse of the said antient Trade and Employment, and is extremely prejudicial to the publick credit of this kingdom, and to the trade and commerce thereof, and if not timely prevented may ruine the credit of the Nation and endanger the Government itselfe, etc.

It is then enacted that from and after 1st May, 1697, no person is to act as a broker in London or Westminster, or Bills of Mort., “in the contriving, making, or concluding bargains and contracts between merchant and merchant, or between merchants and tradesmen, or others, concerning their wares and merchandises to be bought and sold, or contracted for, or concerning moneys to be taken up by exchange between such merchant and merchants and tradesmen, or concerning any Talleys, or Orders, Bills of Credits, or Tickets payable att the receipt of the Exchequer, or att any of the Public Offices, or concerning any Bills or Notes payable by the Governor and Co. of the Bank of England or their successors, or for or concerning any part of the Capital or Joint-Stock belonging or to belong to the said Governor and Co. or their successors, or to any members of the said Co., or for or concerning any part or share of the Capital or Joint-Stock belonging to or to belong to any Co. or So. that is, or shall be, incorp. by Act of Parl. or Letters Patents,” until such persons should have been admitted brokers by licence of the Lord Mayor. All such licensed brokers and stock-jobbers were to keep a register book, and enter all contracts within 3 days after they were made. Then we reach the specific prohibitions in view (s. 10):

And for the further preventing the Mischiefs and Inconveniencies that doe daily arise to Trade by the ill practices of Brokers, Stock-Jobbers, and others, be it further enacted and declared by the authority aforesaid, That every policy, contract, bargain, or agreement made and entered into or to be made and entered into by any person and persons whatsoever, and which by the Tenour thereof is to be performed after the said 1 May, 1697, upon which any prem. already is or att any time hereafter shall be given or paid for liberty to putt upon or deliver, receive, accept, or refuse any Share or Interest in any Joint-Stock, Talleys, Orders, Exchequer Bills, Exchequer Ticketts, or Bank Bills whatsoever, other than and except such Pol., Contracts, Bargaines or Agreements of the nature aforesaid, are to [be] performed within the space of three days (to be accounted from the time of making the same), is and shall be utterly null and void to all intents and purposes as if the same had never been made, and every such prem. and prem. shall be paid back and restored to such person or persons who did give or pay the same, his executors, administrators, or assigns.

All sworn brokers not making discovery of other persons acting as such to be displaced. And no sworn broker to “act or deale or drive any bargain or contract for Tallies, etc., on Funds granted by Parl. unless licensed by the Treasury.” The Act was to continue

for 3 years "and no longer." It was afterwards continued by 12 & 13 Wm. III. (1700) for 7 years further from that date. (See 1734.)

1697.—De Foe, in his famous *Essay upon Projects*, first pub. this year, says :

Wagering as now practised by policies [*polities* he terms them] and contracts, is become a branch of assu.; it was before more properly a part of gaming, and as it deserved had but a very low esteem; but shifting sides, and the war providing proper subjects, as the contingencies of sieges, battles, treaties, and campaigns, it increased to an extraordinary reputation, and offices were erected on purpose, which managed it to a strange degree, and with great advantage, especially to the office keepers; so that, as has been computed, there was no less gauged on one side and other upon the second siege of *Limerick* than £200,000. . . .

These offices had not been long in being but they were thronged with sharpeners and setters, as much as the Groom-porters', or any gaming ordinary in town, where a man had nothing to do but to make a good figure, and prepare the keeper of the office to give him a credit as a good man; and though he had not a groat to pay he should take guineas, and sign policies, till he had received perhaps £300 or £400 in money, on condition to pay great odds. . . . But besides those, who are but the thieves of the trade, there is a method as effectual to get money as possible, managed with more appearing honesty, but no less art, by which the wagerer, in confederacy with the office-keeper, shall lay vast sums, great odds, and yet be always sure to win. For example :

A town in Flanders or elsewhere during the war is besieged; perhaps at the beginning of the siege the defence is vigorous, and relief probable, and it is the opinion of most people the town will hold out so long, or perhaps not be taken at all. The wagerer has two or three of his sort in conjunction, of which always the office keeper is one; and they run down all discourse of the taking of the town, and offer great odds that it shall not be taken by such a day. Perhaps this goes on a week, and then the scale turns; and though they seem to hold the same opinion still, yet underhand the office-keeper has orders to take all the odds which by their example was before given, against the taking of the town; and so all their first given odds are easily secured, and yet the people brought into a vein of betting against the siege of the town too. Then they order all the odds to be taken as long as they will run, while they themselves openly give odds, and sign policies, and oftentimes take their own money, till they have received perhaps double what they first laid. Then they turn the scale at once, and cry down the town, and lay that it shall be taken, till the length of the first odds is fully run; and by this manage if the town be taken, they win perhaps £2000 or £3000, and if not taken they are no losers neither.

'Tis visible by experience, not one town in 10 is besieged but 'tis taken. The art of war is so improved, and our generals are so wary, that an army seldom attempts a siege but where they are almost sure to go on in it; and no town can hold out if a relief cannot be had from abroad.

1708.—There was enacted the 7 Anne, c. 16—*An Act to prevent the laying of Wagers relating to the public*—which is as follows :

"Whereas several persons have of late years laid wagers, and executed several pol. for payment of great sums of money upon several contingencies relating to the present war and other matters relating to the Gov., which practice hath been found to be inconvenient to the publick : For preventing whereof for the future be it enacted by the Queen's Most Excellent Majesty by and with the advice and consent of the Lords Spiritual and Temporal and Commons in this present Parl. assembled and by the authority of the same. *That from and after the last day of March, 1709, all wagers to be laid upon any contingency relating to the present war, and all pol. of assu., bonds, notes, or other deeds or writings whatsoever, for the payment of any sum or sums of money upon any such contingency shall be utterly void, frustrate and of non effect to all intents and purposes whatsoever : And that all and every person and persons who shall make such wagers or seal, subs. or sign any such pol., deed, or writing as aforesaid, or authorize the sealing, subscribing, or signing thereof, and every person and persons who shall be concerned as brokers, notary or other agents in making or procuring such wagers, or sealing, subscribing, or signing such pol., deeds, or writings as aforesaid, shall for every such offence by him or them respectively be committed, forfeit double the sums of money for which such wager or wagers shall be laid or for which such pol., bonds, notes, or other deeds or writings shall be respectively given or entered into as aforesaid, one moiety whereof to Her Majesty, her heirs and successors, and the other moiety to such person or persons as shall sue for the same in any of Her Majesty's Courts of Record at Westminster, wherein no Essoign, Protection, or Wager of Law shall be allowed, or any more than one Imparlanee.*

Provided always that nothing in this Act contained shall extend or be deemed, construed, or taken to extend to any assu. to be made upon any ship or vessel or the cargo or lading of any ship or vessel or any part thereof employed in any voyage whatsoever, or to any Bonds of Bottomree to be made on any voyage or any ship or vessel employed in any voyage whatsoever."

This Act was repealed as recently as 1867 by 30 & 31 Vict. c. 59; although in Ruffhead's ed. of the Stat. 1769, it is there stated to have been "expunged."

The immediate effect of the last-named measure was not to check the gambling spirit which prevailed—and which had prevailed from the accession of the Queen in 1702 till now; indeed it may be said, through the remainder of her reign—but only to divert it into other channels. Among these were the schemes of *Apprenticeship Ins.*, *Birth Ins.*, and *Christening Ins.*, already traced in detail under their titles; and many others which we must next proceed to notice.

There were schemes for the insurance of mothers during the perils of childbirth [*CHILD-BIRTH INS.*] and of the children after they were born. A prodigious number of schemes for the ins. of children were set on foot. Under *LIFE INS.* some of these will be noticed in detail. We have it on the authority of a chronicler of the period, that the success of the early schemes of this class sharpened the invention of the thrifty, and "immediately almost every street in Lond. abounded with ins. offices, where pols. for infants 3 months

old might be obtained for short periods. From these they diverged into other ages, and various descriptions of persons." But we must proceed gently at this stage. It is almost impossible to trace the projects of this immediate period in detail. They were not as a rule advertised in the public newspapers—as a few years later was the case—but were prob. made known by means of small handbills. References by paragraphs in the public journals; and the measures of repression to be found in the Stat. Book, constitute our chief means of information at this period. [LITTLE GOES.]

1711.—To such a point had some of the schemes referred to extended themselves by the commencement of this year, that the attention of Parliament was again called to them; and this eventuated in the passing of the 9 Anne, c. 6—*An Act for reviving, continuing and apportioning certain Duties upon Coals to be water-borne and carried Coastwise; and for granting further Duties upon Candles, for 32 years; to raise £1,530,000 by way of a Lottery for the service of the year 1711; and for suppressing such unlawful Lotteries, and such Ins. Offices as are therein mentioned*—sec. 57 of which recites and enacts:

"Whereas several ill-disposed persons, with design to defraud H.M.'s subjects, have of late presumed to erect and set up offices or places for making Ins. on Marriages, Births, Christenings, or Service, which practices are also prejudicial to the publick, and tend to defraud H. M.'s subjects; Be it further enacted, etc., That every person, etc., who after the 8 March, 1710 [N.S. 1711], shall erect or set up any office or place for making Assu. on Marriages, Births, Christenings, or Service, or on any of them, shall forfeit for every such offence the sum of £500."

But sec. 58 gives some little latitude in the matter, as follows:

"That such offices or places erected, set up, or used before the said 8 day of March, for making Assu. on Marriages, etc., may be continued after the said 8 day of March for making good and executing only such Ins. and contracts for Ins. therein respectively made before the said 8 day of March as they might have continued if this Act had not been made; anything herein contained to the contrary thereof notwithstanding."

Now in order to evade the provisions of the last-named Act, a new set of projects were put on foot very soon after its passing, of which we must endeavour to give some account—a task not of the easiest, for the true objects of these ventures were carefully concealed under cover of assumed titles. The reader may be satisfied that the following were all Gambling Ins. adventures in disguise; and there were certainly many others which we have not been able to unravel. They were commonly known as the "Little Goes" of Ins.

Here is a scheme, announced in the *Post-Boy* under date 19 June, 1711:

Notice is hereby given to all persons that on Monday the 11 inst. four new books was added to my beneficial sale of the *Alphabet Letters*; my former hath met with very great success. This undertaking is of such ease and freedom that here it cannot be expressed. I hereby request all you that have met with losses in your former troublesome offices, to become purchasers in this undertaking, where you cannot loose; but may make large improvements for your money. My weekly dividends amounts to above cent. per cent.; and speedily they will advance much higher. See my catalogues which you may have gratis at my chamber in Crown Court, near the Church in Broad Street, Lond. For the like you never read before. This design is for the public good, and doth daily prove so; therefore it becomes all persons to make speedy trial for their own advantage.

In the *Spectator*, under date 27 June this year, was the following mysterious announcement:

Four new sorts of curious perspective glasses convenient to take a view of others through for a great while or very often, yet without any impertinent staring; no other persons being able to discover who is looked at, even if they had got these new glasses; for one may thereby look towards his right or left hand when others suppose him to look forwards; or he may look forwards or backwards when they suppose him to look towards his right or left hand. These perspective glasses are commodious and short like ordinary opera glasses, and make things to appear clearer, nearer, and bigger, though they be twice or thrice as far distant than the naked eye (of short sighted people as well as of them that have a good sight) requires, to see very distinctly. Proposals at large for their sale by subscription may be had at Mr. Dillon's, next door to the White Hart in Long Acre.

Another, under date 10 July, and pub. in the *Useful Intelligencer*, was as follows:

Observe well, for notice is hereby given to all persons that are desirous to make improvements of their money in a just and honest way wherein is no hazard nor trouble nor loss to any one; that the books are now open and now is your time: miss not therefore so good an opportunity as now doth present, your charge is certain, and none need pay more weekly than what they can spare, you shall be sure to have justice done you and a fair account shown you from the book's what is your due to receive. I have sold in three weeks time 40 score letters, my dividends I pay weekly amounts to above cent. per cent. See my catalogues, which you may have gratis at my chamber in Crown Court, in Broad Street, London, and delay not to be concerned in this most noble and profitable an undertaking, which is only for the publick good, and doth daily prove so to be, as can be attested by several persons, the like is not in London. With speed make trial for your own advantage.

On the 26th October, same year, there appeared in the *Post-Boy* the following from an opposition office-keeper:

The proposer of the sale of *Alphabetical Letters* at the Golden Ball in Whalebone Court, Lothbury, doth hereby give notice to all his purchasers and others that he has already made three payments for rebought letters in his said sale, to a general satisfaction; nevertheless being stinted to time, and being desirous for the advantage of his purchasers (especially since they receive as soon as they have done paying their weekly money) to divide for the future by 20 in each book until such time as the number of new entries prolong the time, and then due care shall be taken to shorten again their time of receiving, by dividing by 30 as before, which will be the great advantage of every purchaser, and is the only safe method to prolong this sale to the greatest advantage of any yet extant.

Here is an announcement of the "Queen's Picture" from the *Spectator* of 8th Dec.:

Over against the Fountain tavern in St. Martin's le Grand adjoining to Aldersgate is kept the office for sale of the Queen's Picture, where all persons that buy the same may receive great profit. The monies so received by the disposer of the said pictures shall be paid weekly. The buyer shall pay for his, her or their picture 1s. in part and afterwards weekly pay 1s. 6d. or 2s. 6d. and if duly paid a very great advantage thereby arising to the purchaser. It being the fairest and honestest proposal that hath hitherto been made in this kind, whereby no person will or can be injured, it being the fairest and honestest that was ever offered for the public good and benefit of those who become purchasers thereof. It being just now opened, slip not this opportunity.

1712.—The new year opened with the following advertisements in the *Useful Intelligencer for Promoting Trade*, under date 11 Jan.:

[1.] At the orig. South Sea Coffee House in Broad Street is continued the *Sale of Letters* with great success: for in this office there have been near 400 shares paid off since the 21 Dec. last to the satisfaction of all persons concerned. And for the further encouragement of all that will become purchasers, the treasurer will give them their memorandums gratis until the 12th inst. *Note.*—Those that will become purchasers are to pay but four times before they are to receive, and that will be within 8 or 9 weeks at furthest. So that none will be long out of their money, and their advantage will be great: it being the most certain and surest method for improving small sums wherein none can be losers, but will be great gainers, and the time of their receiving inserted in their memorandums.

It was further announced that on 28 March another book would be opened at the same office for the *Sale of Letters*. Another ed. of the same adv. said:

"N.B.—New books will be opened on Thursday the 17th inst. exactly at 9 of the clock in the morning."

[2] This notice is given to all persons concern'd in the *Sale of Muffs*, kept in Red Lyon Court in Drury Lane, that yesterday with great success was opened 3 new books, pay only 6d., 1s., or 1s. 6d. entrance.

N.B.—The proposals are now printed and to be had at the office, such as are in arrears are desired to clear them off on Thursday, Friday, or Saturday next, otherways they will be excluded all the advantages allowed in the proposals, etc.

Note.—This office meets with extraordinary encouragement, every person being ascertain'd of the profit.

On the 12 Jan. in the *Post-Boy*:

The *Charitable So.*, at the Golden Heart, near the Hospital Gate in Smithfield, continues to take in subscriptions for an additional number of members to the said society, where each will be entitled to advantages according to their subscriptions; it being proposed for improvement of money, and doing charity; the members will have considerable profit over and above the charity proposed, which is, doing good, and being great gainers thereby.

In the *Spectator* same day:

At the Crown in Wine Office Court, the second door on the left hand from Fleet Street, on Saturday the 9th of February last, were opened 3 books for the *Sale of Numbers*, which have met with very good success and encouragement, proposing cent. per cent. advantage in a return of no longer time than 4 weeks for the first hundred numbers, and none will stay longer than 4 weeks from the time of their entrance before they receive the proposed advantage. Attendance is given daily from 9 to 12, and from 2 till 6.

This scheme was referred to again Mar. 31:

In the *Postman*, 22 Mar.:

Note.—2 Additional books are to be open'd at the sale of the Queen's Picture, next house to the George Inn, Coleman Street, on Tuesday the 25th inst. at 8 in the morning, you'll receive the same profit as before, which is double your money within the quarter (for I pay no less). *Note.*—For settlement of the books and despatch of business I sell no pictures but on the 3 first days of each week.

In the *Postman*, 25 Mar.:

Whereas of late several offices have been erected for the improvement of money, in few or none of which any security is given for the satisfaction of contributors, nor any provision made to secure the interest of the latter subscribers. Therefore to-morrow being the 26th March will be opened books for improving money by a method different from all others, and settled upon such a foot as cannot fail to render it lasting and beneficial to every subscriber; also over and above the advantages of 200 p.c. to be gained by the weekly dividends, there are other as great advantages arising from the improvements of the stock to the members of this company. Also to ascertain the payment of the money the proprietor will give security to the satisfaction of the subscribers, the office at the Golden Ball, near the Swedes Church in Trinity Lane.

In the *Spectator* of 27 March:

The most safe and profitable *Sale of Numbers*, three books will be opened at the Golden Crown, the upper end of Bow Street, Covent Garden, on Friday next, the 28th inst. for the advantage of all purchasers who will receive cent. per cent. for all the monies they advance as by proposals to be had gratis at the place aforesaid will appear. Attendance is given from 8 in the morning till 12, and from 2 to 8 at night. *Note.*—That memorandums will be given out to make payment in four weeks.

In the *Postman*, same day:

At the original South Sea Office Coffee House in Broad Street on Friday the 28th inst. will be opened a book for the *Sale of Letters* at 9 a clock in the morning exactly.

On the 15 April the following:

The second door on the left hand in Bond's Court in Wallbrook is the *Sale for Words*, to improve small sums of money not exceeding cent. per cent. Removed from the Rainbow Coffee House, Cornhill.

In the *Post-Boy* of the 17th:

Just opened, with extraordinary success, an office to improve small sums of money to cent. per cent. by a method more plain and advantageous than any yet proposed; no person being to pay more than three times, and will receive in less than a month. Proposals and constant attendance at the office, one pair of stairs over the *Four Indian Kings*, in Henrietta Street, Covent Garden.

In the *Post-Boy*, 22 April:

This is to give notice that on the 21st day of April will be opened four Books for Improving of Money by way of Trade and Dealing; and whereas any person that puts in will receive double what

they put in in seven weeks; and for their further satisfaction they may have proposals at the office in Stone Cutters Court, Pall Mall, opposite to the end of St. Albans Street, upon the right hand in the Court, up one pair of stairs; where there will be attendance from 7 to 11 in the forenoon and from 2 to 7 at night. This being the newest and most substantial of any that has been yet, and any persons may venture small sums or greater as they please, etc.

In the *Post-Boy*, 1 May:

From the sale of the Queen's Picture, next house to the George Inn, Coleman St.

To prevent the trouble of great numbers coming who daily enter faster than is beneficial to the office or purchasers belonging, this advertisement is published. That we cannot enter more until Thursday the 8th May. We never publish but on this occasion and upon the opening new books, which shall be carefully put in the *Postman* and *Post-Boy*. It shall be our constant regard to make this sale of great continuance (without any shuffling or alteration of our methods) which cannot be effected without a due care. I pay no less than cent. per cent. as great numbers can testify and will continue in that resolution. The said 8th day of May we shall enter a competent number and no more at the said office in Coleman St.

Note.—Those that enter the said 8th day of May will receive in 10 weeks at soonest.

Another, same date:

At Nixon's Coffee House at Fetter Lane end of Fleet St., is opened an office, called the *Golden Office*, where by putting in moneys, not exceeding 5 guineas, may receive cent. per cent. in three weeks time.

On 3rd May in the *Postman*:

At the *Golden Star Office*, in Nicholas Lane, Lombard St., will be opened on Wednesday (7 May) next, one 10s. and one 5s. book for taking in subs. to the *Honorable Society of Contributors* for improving money to a greatly more certain advantage than in any other office; the scheme calculated on a basis more solid than any other yet on foot. No subs. pays more than 3 times, and the times of receiving (not exceeding c. p. c.) fixed in their tickets.

Under date 6 May the following:

The Co. of *Voluntary Contributors* to the Club continued at the Two Blue Posts in Shoemaker Row, near Aldgate, having lately taken in very large and numerous subs., 'tis thought fit by their box-keeper, Dan Edge, for preventing disappointment of many people, to give this public notice that the books are shut up; and that no more subs. will be admitted of, till Monday the 12th day of May, when new books will be opened, and attendance given for a public subs.

In the *Courant* of 7 May:

All persons concerned in the office over against the Red Lion in Freeman's Lane, on Horsleydown, are desired to bring in their memorandums in order to receive their money, deducting only the charges of the office. Attendance will be duly given.

In the *Courant*, 10 May, one of a more original character:

By the *Original Co. of Generous Contributors* for settling a fund for improving money and relieving the poor at the Golden Lyon and 7 Stars in Denmark Court, over against Beauford Buildings, in the Strand, this notice is given: That many of the subscribers being in arrear great sums of money to the disabling of the manager for making of payments to others as they become due, and the manager having reserved to himself (as appears by the 11 art. of the said proposals dated Feb. 7, 1712) the liberty of adding, altering, or amending any part of the proposals which may be found at any time prejudicial to the said Co. of Contributors, he cannot pay (without prejudice to the said Co.) any money due from this date, being the 9th of May, till those people that are in arrear pay their arrears off, of which fresh notice shall be given, and that in case those arrears are not paid in 20 days after the notice, not only those persons will lose all the money they have already paid, as by the articles, but also other subscribers will fall short of their profit. This has given an umbrage to some people to think amiss of the said Co., who have endeavoured to discourage the new books just opened to great advantage (proposals of which may be had, etc.), yet they go on very successfully, so that there are great subscriptions—and by the people of the best rank as may be seen by the said books.

In the *Post-Boy*, 13 May:

At the Crown, in Wine Office Court, the second door on the left hand from Fleet Street, is kept an office for the most safe and profitable Sale of Numbers; which for the quickness of the return, the largeness of the profit and readiness of payment exceeds any office yet set on foot, as many can witness who have had their money doubled three times in less than 4 months. N.B.—At the same place is also kept a book in which for paying £4 10s. down you receive 10s. per week for a year from the day of entrance. Proposals may be had gratis, and attendance is daily given at the office aforesaid from 9 to 12, and from 2 to 6.

Same day, same paper:

At the *Golden Star Office* in Nicholas Lane near Lombard Street was opened on Wednesday last, 7th instant, one 10s. and one 5s. book for taking in subscriptions to the *Honourable Society of Contributors* for improving money to a great and more certain advantage than in any other office; the scheme being calculated upon a basis more solid than any yet on foot. No subscriber pays more than 3 times; and the times of receiving (not exceeding cent. per cent.) fixt in their tickets. Attendance will be given at the office (holidays excepted) from 8 to 12 and from 2 to 6, where articles at large may be had gratis.

Also this:

At Nixon's Coffee House at Fetter Lane end in Fleet Street is opened an office call'd the *Golden Office*, where by putting in moneys not exceeding 5 guineas, may receive cent. per cent. in three weeks time. Proposals may be had at the place aforesaid gratis.

Yet another, same date:

Fair So. Office, against the Sieve Ale House, Little Minories, where several persons have received great advantage in a very short time. For the greater advantage of all subscribers there will be opened 14 May, 3 books: the 1st on 5s. bills; the 2nd, 10s.; the 3rd, 20s.; where the return is quick and with great advantage.

In the *Post-Boy* of the 15th:

Golden and Silver Office of Merchant Contributors. At the Fox and Hounds without Bishopsgate, near Artillery Lane, are just opened 7 books for improving of small sums of money in 3 weeks time. *Note*.—Security is left in the hands of each subs. for any sum not exceeding £20. Each member pays but once before they receive principal and int., which is honourable and fair as any office extant.

Same day and paper:

At Nixon's Coffee House, Fetter Lane end, in Fleet St., were open'd 7 books for improving small

sums of money from 4 to 5 guineas; receive their moneys again in 3 weeks time cent. per cent. where each member pays but once.

Note.—The members of the *Golden Crown* Office are hereby to take notice that payment will be made next Monday, May 19, according to the articles; and the encouragement for new subscribers will be more advantageous than to the first subscribers.

Note.—There will be two books open'd next Monday by weekly payments or at one payment; where security will be left in the hands of each subscriber for any sum not exceeding £10 according to the scheme which is altogether new and honourable and quicker in pay than any other office extant.

And further :

Observe well, on Monday the 19 inst. Mr. Ewens, the first Founder of the most Noble Sale of the Alphabet Letters, will open 6 new books which will be of great benefit to the purchasers. Enquire at his house at the Golden Ball in Great Winchester Street, where you may have catalogues gratis.

In the *Post-Boy*, 17 May, an improved specimen :

Whereas on Monday 21 April 1712 were opened 4 books in the way of trade where every one receives the double of their money in 7 weeks that pays weekly and 6 in those that pay all down at entry which is as little time as any who intend to continue in the same. Therefore, for the good of the subscribers and for our own credit we have consulted what method is most probable both for encouragement and profit of those that put in their money; for the whole depends upon the encouragement of the subscribers, by standing by the books which make a continual multiplication which I question not but they will for their own interest; for there is none more plain and pfeasible to behold than this; for I can make it appear by those who have put in considerable to the same, and others likewise who are men of credit, that we can and do return our money oftener and in that method which I believe there is not any office in town capable to do to that advantage entered. The first payment begins on the 7 June and every Saturday successively.

The hours are from 7 to 12 and from 2 to 7 in Stonecutters Court in Pall Mall . . . where there has been great success for the time as the books will show.

And same date and paper :

Security: the safest way to improve money next the Three Herrings opposite St. Peter's Church, in Gracechurch Street near Cornhill. On Monday 19 May will be opened an office wherein any one entering shall have a bank or a goldsmith's note as a security for the full value till the principal be paid. 1s. to be paid for entering 10s.; and for every 10s. entered to receive 40s.

Yet another :

The most safe and profitable sale of Numbers. Four were open'd on Thursday the 15 inst. at the Golden Crown in Nagg's Head Court in St. Bartholomew Lane near the Royal Exchange for the advantage of all purchasers who will receive cent. per cent. for all the money they advance without any deduction whatsoever as can appear by the proposals to be had gratis at the place of sale aforesaid. *Note.*—The memorandums are given out to make payment in four weeks.

About the same date another office was opened at the "Black Lion, King Street," almost precisely the same as the office next the Three Herrings.

On the 20 May the "*Original Company of Generous Contributors for Improving Money, and relieving the Poor, at the Golden Lion and 7 Stars in Denmark Court over against Beauford Buildings in the Strand,*" issued a manifesto to the following effect: States majority of subs. Satisfied of integrity of manager. Calls from each subs. 2s. in £, out of which to be paid certain number of claims out of old books each week. Those who pay this call to have their own claims when due paid before those of persons who do not pay the call. "The new books opened 6 May meet with great encouragement. All entering from 20 May 1712 to have Exchequer Bills or Bank Notes as security to the full of their payments." See *Post-Boy* this date.

Also in *Post-Boy* 20 May :

At the Two Blue Posts Shoemaker Row near Aldgate 2 Books one of 5s. other of 10s. opened on 22nd inst. to take money upon Bills where each subscriber may have his principal and int. in 3 weeks after entrance. Observe the above said boxkeeper Daniel Edge a man of good reputation and honesty has resided in the parish of St. James Duke's Place London for more than 20 years and has upon weekly contributions made above 30 weeks payments very punctual and satisfactorily to some thousand subscribers. Nor does he purpose to lay aside the method wherein he has been so successful; but for the ease of country people and far-dwellers opens the above mentioned books; so that all may have satisfaction in subscribing which way they please.

Also same paper and same date: "Security in hand, etc.," Black Lion in King Street. Advertisement similar to that of office next Three Herrings [17 May, 1712, *Post-Boy*]. 1s. to enter 10s.; 1s. for each 10s.; for each 10s. entered to get 40s.

In the *Post-Boy*, 22 May, the *Golden Office* repeats the adv. of 13 and 15 inst., with the following addition :

We beg the Excuse of the Publick that we take no notice of the Gentlemen-like Language of the Directors of several distinct Sos. who publickly betray their Ignorance about the Management of other Sos. for allowing cent. per cent., and yet in the same paragraph asserts that he never paid less to his subscribers than double their money which any man as wise as himself must conclude that is the cent. per cent. propos'd by other offices.

Same day and paper :

The most advantageous *Sale of Fans* which hath met with encouragement even beyond expectation (and in which there have been paid several £1000 and where there is constantly every Saturday paid away several £100 without postponing the payments on any memorandums). At the request of several subscribers and for their better accommodation the disposer will on Monday the 26th inst. remove from the Iron Pot in Shoe Lane to the Iron Pot in New Street in Shoe Lane at which time there will be 6 new books opened to pay 1, 2, 3, 4, 5, or 6s. per week.

In the *Post-Boy* of 24 May :

[1] At the Bell in Henrietta Street Covent Garden is kept an office for the Sale of Gloves which for the largeness of the profit, the quickness of return, and the readiness of payment exceeds most offices now on foot. N.B.—There is lately opened a 10s. book.

[2] At the Bell in Henrietta Street Covent Garden is kept the most advantageous Sale of Gloves proposing cent. per cent. in 6 weeks at farthest. N.B.—In the new half-crown book the subscribers will receive in four weeks.

[3] This day opened the *Best and Most Advantageous* Office for Improving Money. Bank Bills given for security. *is.* to be paid for entering *10s.*

[4] Legal Security by the *Grand Substantial* Co. at the Haunch of Venison and Two Neats Tongues next St. Magnus Church, London Bridge. *is.* to be paid for entering *10s.* Bank Bills security.

In the *Post-Boy* of 27 May :

By the *So. of the Golden Office* (thro' the Passage made on purpose for the conveniency of ladies) at Nixon's Coffee House, by Fetter Lane End Fleet Street. Are opened 7 books for improving small sums of money from *4s.* to 5 *gs.* Receive their principal in three weeks and *cent. per cent.* where each member pays but once before he receives principal and interest. *Note.*—The members of the Golden Office are hereby to take notice that payments are made this day and the *So.* have punctually paid all their payments already due; to the general satisfaction of the subscribers gentlemen and ladies of rank and quality and otherwise; and the encouragement for new subscribers will be more advantageous than to the first subscribers; and notwithstanding the infancy of the office which is a sufficient plea for its perpetuity, the encouragement it hath met with hath obliged the director (in opposition to any clamour, that persons may suggest either through ignorance of this noble undertaking as prejudiced by the ill management of other distinct societies; who have opened new books to pay off old arrears or stop payments) that he hath opened a new book when Bank Bills or Goldsmith's Notes for security of their principals. *Note.*—The office commenced 28th April, and hath made 10 days payments since.

In the *Postman* of same date :

This day is opened over against the Crown Tavern, within 4 doors of the Excise Office in the Old Jury, an office for improving money to a great advantage. First payment in 3 weeks time with considerable profits.

There was also the following :

Co. of Voluntary Contributors at the Four Indian Kings, Henrietta Street, Covent Garden, began to pay on the 24 April, and continues to pay every week the full advantage proposed. Every person receives in less than a month after entry.

In the *Flying Post*, of same date :

All persons having cash in the hands of Samuel Nelson desired to bring in their bills on Thursday, Friday, or Saturday next to the Black Bull, Rosemary Lane, where they will receive *15s.* in the pound on the principal money paid in on each first book.

The reader will not be surprised, after the preceding recital, to find that the attention of the Legislature was again drawn to the subject of Gambling Ins. There was about the date at which we have now arrived enacted the 10 Anne, c. 26—*An Act for laying Add. Duties on Hides and Skins, Vellum and Parchment, and New Duties on Starch, Coffee, Tea, Drugs, Gilt and Silver Wire, and POL. OF INS., to secure a yearly Fund for Satisfaction of Orders to the Contributors of a further sum of £1,800,000 towards H.M.'s Supply; and for the better securing the Duties on Candles; and for obviating Doubts concerning certain payments in Scotland; and FOR SUPPRESSING UNLAWFUL LOTTERIES AND OTHER DEVICES OF THE SAME KIND; and concerning Cake Sops; and for Relief of Mary Ravenhall, in relation to an Annuity of £18 p.a.; and concerning Prize Cocoa Nuts brought from America; and certain tickets which were intended to be subscribed into the Stock of the SOUTH SEA CO.; and for appropriating the Monies granted in this Session of Parl.*—sec. 109 of which recites as follows :

Many ill-disposed persons, with design to evade the said laws, have of late presumed to erect and set up offices or places for making Insurances on Marriages, Births, Christenings, or Service, and also other offices or places under the denomination of Sales of Gloves, of Fans, of Cards, of Numbers, and of the Queen's Picture, for the improvement of small sums of money, and advertisements thereof are daily pub. in the common printed news papers, and otherwise; which practices are prejudicial to the publick, and to the trade of this kingdom, and tend to defraud Her Majesty's subjects.

Then it is enacted that persons so offending after the 24 June, 1712, shall forfeit £500; but the offices might be kept open for completing contracts made before that date.

The next announcement, under date 29 May, coolly purports to be framed in conformity with the new Act of Parl.:

By the *So. of the Golden Office* (thro' the Passage made on purpose for the conveniency of ladies) at Nixon's Coffee House by Fetter Lane End Fleet Street. *Estab. and entered in the Hall Books, for 14 years according to the late Act of Parl.* Are opened 7 books for improving small sums of money from *4s.* to 5 guineas. Receive their principal in three weeks and *c.p.c.* where each member pays but once before he receives principal and interest. *Note.*—The members of the Golden Office are hereby to take notice that payments are made this day and the *So.* have punctually paid all their payments already due; to the general satisfaction of the subscribers, gentlemen and ladies of rank and quality and others; and the encouragement for new subs. will be more advantageous than to the first subs.; and notwithstanding the infancy of the office which is a sufficient plea for its perpetuity, the encouragement it hath met with hath obliged the director (in opposition to any clamour that persons may suggest either through ignorance of this noble undertaking as prejudiced by ill management of other distinct societies; who have opened new books to pay off old arrears, or stop payments) that he hath opened a new book when Bank Bills or Goldsmith's Notes for security of their principals.

On the same day the *Co. of Voluntary Contributors* at the Four Indian Kings announce :

Subs. taken to improve money in a method which to every considerate and unprejudiced person will be the best digested and most likely scheme on which to estab. an undertaking of this nature ever proposed.

Here is an announcement of 31 May, which seeks to lift this particular enterprise out of the operation of the Act :

This is to acquaint all persons already concerned and such as shall hereafter become adventurers in the honest and beneficial *Sale of Letters* at the Half Moon over against More's Yard in St. Martin's

Lane, near Charing Cross, that the proposers have never advertised since the 22nd October last during which time several thousand pounds have been paid to the great satisfaction and advantage of all traders therein; and are now desired by many of the subscribers themselves to publish this in their own vindication that the world may see how much they differ in their scheme and other things from those ill-designing people who of late have set up so many *scandalous offices of assurance* to the prejudice of those who have made their payments punctual, just and profitable, as may be seen by their books fairly kept; and the tickets of letters answering their own numbers filed in the office, whereby every subscriber by application may be satisfied of the honesty of the proposers inasmuch that they can make the trade indebted to them whereas others have gone off with considerable sums making few or no payments at all.

Of the next, under same date, it may simply be said, "coming events cast their shadows before":

The Box-keeper to the Club continued at the Two Blue Posts in Shoemaker Row near Aldgate finding that the sink of many offices now lately in town has disheartened many members of and contributors to the said Club does propose to exclude every contributor the benefit of the Club upon neglect of due payment as well as of their weekly contributions as to their entries or re-entries; and intends that any one shall take up the whole advantage that would accrue to any such contributor or subscriber as a just reward for paying upon such weekly entries or re-entries. Subscriptions shall henceforward be taken in to pay upon weekly contributions no more than 50 per cent.

Another of same date:

From the *Original Co. of Generous Contributors* in Denmark Court Strand. The manager will on Monday 2 June pay off the following Numbers: In the *Heart Book*, 691-6; 953-6. *Diamonds Book* (4 Nos. given). *Spades Book* (4 Nos. given). *Clubs Book*, ditto.

The *Post-Boy* of the same date (31 May) contained the two following:

[1] Observe well! Mr. Robert Ewens, the first founder of the *Most Noble and Beneficial Sale of the Alphabet Letters*, at the Golden Ball in Great Winchester Street, London, will open four new books on Monday next, the 2nd June, which will be of great advantage to the subscribers. *Note*.—All persons that are upon pay in any of his former books are required to make good their payments by Thursday next, or they will be excluded from all advantages by me Robert Ewens.

[2] The Honest and Beneficial Sale of Letters at the Half Moon oven against More's Yard, in St. Martin's Lane, Charing Cross, (say) they have not advertised since 22 Oct. last, during which time several thousand pounds have been paid to the great satisfaction and advantage of all traders therein, and are now desired by many of the subscribers themselves to publish this in their own vindication that the world may see how much they differ in their scheme and other things from those ill-designing people who of late have set up so many scandalous offices of assurance to the prejudice of those who have made their payments punctual, just, and profitable, as may be seen by their books fairly kept; and the tickets of letters answering their own numbers filed in the office, whereby every subscriber by application may be satisfied of the honesty of the proposers, inasmuch that they can make the trade indebted to them, whereas others have gone off with considerable sums: and for a further encouragement to the subscribers there will be opened four new books, etc.

Under date 3 June we have the following manifesto from the *Original Co. of Generous Contributors*, etc. It may be regarded as the beginning of the end:

The manager of the Original, etc., for the benefit of the publick, and to retrieve the reputation of his office, thinks himself under a necessity to remonstrate that for 10 months past his undertaking has been carried on with unspeakable success to the great advantage of multitudes of persons of all ranks and degrees who have subscribed thereto; and it is still his sincere intention to discharge himself in like manner for the future, if not prevented by the rash and precipitate accounts of the inconsiderate. 'Tis obvious to all desiring persons who have had the curiosity to inspect; it will appear likewise by affidavits for that purpose shortly to be made and pub. if required, that the said manager has paid away great sums out of his own substance and profits to make good to his subscribers the deficiencies occasioned by non-payment of arrears and the want of new contributions being made as formerly, which one would think should be sufficient to convince the most suspicious that it is not his own interest only, or any other sinister end that he aims at, but the profit and advantage of the Co., and all those concerned therein. The calumnies and aspersions of divers malicious and designing people, together with the ridiculous and ill-grounded suits and actions commenced against the said manager and his agents who are concerned in transacting the business of the said office, have not only run him to great expense and inconvenience, but blemished the reputation of his office, put a stop to his intended payments, and rendered him incapable for the present of appearing to carry on the same any farther; and will be the total ruin of the said office unless the contributors do in time consider their interests and oblige themselves (by subscribing an instrument for that purpose) to give the said manager and those concern'd for or under him in the said office free license for one year to attend it again without being arrested or molested in the management thereof.

In the *Courant*, same date, another competitor: *The So. of the Seven Liberal Sciences* in Russell Court, Drury Lane, announced as follows:

Made 1st payment on Saturday (May 31) and paid off 140 who received 6 times their money clear of all charges; and 2 weeks pay in hand for 2nd div. Same number to be paid off every Saturday for 6 weeks more, and then a larger number according to increase of subs.

In the *Post-Boy* of 5 June:

Observe well this advt. which comes from the old and original sale of the Queen's Picture, the very next house to the George Inn, Coleman St., London, there having been of late great discourse about offices and I cannot but say great reason to suspect their honesty (some not designing any) and others who know not how to be honest, *being* they wanted experience, which business requires a regular method to be observ'd, occasions me to satisfy the world that the Sale of the Queen's Picture has been maintain'd this 3 quarters of a year, the payments every Saturday paid honourably and justly, which thousands can testify; and which is a plain demonstration of its continuance, good payments being the only security in these cases. I have all along acquainted every single person concern'd that I will maintain it as long as it is possible to be preserv'd; whenever it decays I have promis'd them all from the very beginning to summon all my purchasers together and distribute what is left among them. This method I have taken, and I defy any one to say 'tis unjust, and I will surely perform it. Pray take good notice we begin this present Thursday to enter again, and shall continue until Saturday, the 7th of June; on that day we shall also pay above £500.

And same day:

Observe well,—Mr. Robt. Ewens at the Golden Ball, in Great Winchester Street, has open'd 4 new books for Sale of the Alphabet Letters with the usual success notwithstanding many persons

reported a false clamour against the manager who is well known to be a man of great justice in all his proceedings. This sale will be of very great advantage to all purchasers. *Note.*—All persons that have not completed their payments are required to send or bring the same weekly till the whole is paid, otherwise they will be excluded by the manager.—Robt. Ewens.

In the *Courant* of same day :

The most advantageous Sale of Fans, which is removed from the Iron Pot in Shoe Lane to the Iron Pot in New Street, against the Swan, where all persons who become purchasers continue to receive very great profits, and all memorandums are punctually paid the day before they become due ; and so much care is taken and such methods pursued that the disposer doubts not to continue this sale to a universal satisfaction when others fail for want of the same care and integrity in their management. . . . 1s. 2s. 3s. 4s. 5s. 6s. or 7s. a week and receive in 6 or 7 weeks according to the conditions of their memorandums.

In the *Post-Boy*, 17 June :

All the subs. belonging to the *Alphabetical* Sale in Whalebone Court, Lothbury, are to bring in their payments this present Tuesday or Wednesday, according to the contracts, or they will be excluded ; and they are also to bring what tickets they have out of pay, to be re-entered at the same time by reason no new entries will be made after the 24 June. The memorandum due the 7th inst. will be paid off on Saturday next. Therefore whoever has not brought in their money for that week must bring the same with this week's money or the same will not be received.

On the 19th :

All the subs. in the *Voluntary Co. of Contributors* at the Four Indian Kings in Henrietta Street, Covent Garden, are desired to pay in their contributions with all speed : the manager intending to make good their contracts as fast as possible.

There was another Asso. of "Voluntary Contributors," who on the same day issued the following :

From the office of the Voluntary Contributors near the Horseshoe Tavern in Queen Street on Little Tower Hill. Those subs. who have not received on their 1st bills are to come to the said office from Monday 23 to Saturday 28th inst. inclusive, to take a dividend of the money that is left in the managers hands. N.B.—Those persons who do not accept it will be excluded.

In the *Post-Boy* of the same date the two following :

[1] Notice is hereby given to all the Contributors to the Sale of Numbers kept at the Crown in Wine Office Court in Fleet Street that those persons who have any Memorandums or Notes in the name of S. Hughes must bring them on Monday, Tuesday, or Wednesday next to the sign of the Last in Mint Street Southwark to have 'em registered in order to their being paid the whole or a proportional dividend of the money yet remaining in the hands of the said S. Hughes, the time of which payments shall be farther notified in this paper. And all persons concern'd are to take notice that if they do not conform to the alteration of the proposals, they will be utterly excluded from any benefit.

[2] All the subscribers belonging to the *Alphabetical* Sale at the Half Moon in St. Martin's Lane near Charing Cross are required forthwith to bring in their weekly payments and continue to pay the same as usual or be excluded ; and likewise to bring all tickets that are out of pay, re-enter the same before the 24th inst. conformable to a clause in a late Act of Parliament.

The *Courant* of 21 June contained the two following :

[1] All persons concern'd in the office at the Green Ball in Shandos Street near Covent Garden are desired to meet at the said office on Tuesday next at 2 in the afternoon where new propositions will be made to carry on this society and make good our contract.

[2] All persons concern'd in Richard Allcock's Sale of Fans are desired to come on Monday next to the Reindeer near the Maypole in the Strand to make good their payments and re-enter their memorandums, conformable to a clause in the new Act of Parliament.

The *Courant* of 23rd :

This is to give notice that all persons concern'd at the Iron Pot in New Street Shoe Lane, which shall be found in arrear after the 25th inst. shall be excluded all benefit ; and this further informs that all memorandums due the 7th of June will be paid on Thursday the 28th inst. and so on in course of payment as formerly.

June 24. The Act came into force to-day. The ingenuity of the promoters had therefore to be devoted to the preparation of something new. This industrious class would prob. be equal to the occasion. Here is an indication of "something in the wind," taken from the *Post-Boy* of this date :

The Grand Curiosity will be ready to be delivered to subs. on Candlemas day next upon payment of the remainder of the subs. money at the respective places where they subs. And all persons that are willing to purchase so great a rarity may have 'em at the places following [list of places follows].

The places named constituted a sufficient indication to the persons mainly concerned.

We must yet quote one or two more of the expiring flickers. Under date 25 June appeared the following :

This is to give notice that all persons concerned at the *Iron Pot* in New Street Shoe Lane, which shall be found in arrear after the 25 inst. shall be excluded all benefit. And this further informs, that all memorandums due the 7th June will be paid on Thursday 26th inst. And so on in course of payment as formerly.

In the *Post-Boy* of 26 June :

The *Charitable So.* at the Golden Heart near St. Bartholomew's Hospital in West Smithfield give notice to their members in arrear of payments to pay in their payments on or before the 27th day of this inst. June to prevent their being excluded according to the fourth article of the said Society's settlement ; and the members that have demands are also to take notice, that the Receipts dated the 29 February 1711 page 17 will be paid on Friday the 4 July next and all succeeding dates and pages as their weeks come in course. [See 5 July.]

The *Post-Boy* of the 28th the following :

This last notice is hereby given to those contributors to the Sale of Numbers at the Crown in Wine Office Court in Fleet Street who have not yet brought in the bills they have in the name of S. Hughes pursuant to the advertisements in this paper of the 19th and 21st of this inst. That if they do not bring them on Wednesday the 2nd July next to be register'd at the Last in Mint Street Southwark they will be entirely excluded.

And the *Courant*, same date, contains the following, which shows that the end had really come :

Whereas the proposal called the "*Multiplication Table*" is under an information from the *Attorney General*, in humble submission and duty to Her Majesty the said undertaking is laid down, and attendance is this day given at the last house on the left hand in Ship Yard in Bartholomew Lane, in order to repay such sums as have been paid into the said table without deduction.

In the *Post-Boy* of 5 July was the following—in conformity with adv. of 26 June :

The Charitable So. at the Golden Heart near St. Bartholomew's Hospital in West Smithfield gives notice to their members in arrear to pay in their payments on or before the 10th inst., to enable the So. to make good their contract according to Act of Parliament and to prevent their being excluded. And the members that have demands whose receipts are dated the 7th of March 1711 page 18 will receive on Friday the 11 inst., and all succeeding dates and pages as they come in course.

And so ended what may be termed the Queen Anne series of "Little Goes."

1713.—On the 17th Jan. there appeared in the *Postman* the following :

At the Office for Improving the Fishery of Gt. Britain, at the Pastry Cook, below the Convocation House in St. Paul's Churchyard, *Ins. is granted as usual, and Dividends of Gain arising by Trade, Casualty, and Survivorship are paid at Demand.* Security against loss and prob. of gain are demonstrated in the proposals to be had there. Subs. are also taken directly to the Fishery. Such as have not called for their money, which became due 20 Sept. Oct. Nov. and Dec. last may receive the same upon demand as all other persons have always done, and never less than 60 p.c. gain.

This was the commencement of a new phase of speculation, of which many details are given under ANNU. ON LIVES, about this period. [LIFE INS., HIST. OF.] [MARINE INS., HIST. OF.]

1720.—There was pub.: *Battle of the Bubbles: shewing their several Constitutions, Alliances, Policies and Wars, from their first sudden Rise to their Speedy Decay.* 8vo. pamph. This appeared about the close of the South-Sea period.

1721.—By the Ins. Ordin. of the City of *Rotterdam*, under date 28 Jan. this year, it is provided :

XXVIII. No assu. is allowed to be made on any wagers, wherein all imagined or imaginary profits are understood to be included.

Keeping watch upon the events in our own country more particularly, it is clear that at this period there was from time to time a good deal of gambling in connexion with Marine Ins. pol. of the "Interest or no Interest class"—which were, in many instances, simply ventures upon the capture or otherwise of the ship insured upon. It has been more than once suggested that when a large sum had been insured payable on capture, those interested would back a venture in view of bringing about the desired consummation. (See 1746.)

In the case of *De Pabia v. Ludlow*, this year, the Court of Common Pleas held, that an Ins. "Interest or no Interest" was valid. The facts are remarkable. The ship being insured interest or no interest was taken by a Swedish pirate, and after continuing in his possession for nine days, was retaken by an English man-of-war and carried into Harwich, but not till after an action was brought on the pol. The Court held that though the ship was retaken, yet the plaintiff received a damage, for his voyage was interrupted; that the question was not whether the plaintiff should have his ship again, and should not lose his property, but what damage he had sustained. In other words, he had insured against capture. She had been captured, and he was entitled to the insurance.

1730.—The *Prussian* Maritime Laws, generally spoken of as the Ordin. of *Königsberg*, says :

All Ins. on expected gain, wagers, or such inventions, future freight-monies, seamen's wages, and men's lives are universally forbid, and declared of no force; the seamen are however permitted to insure what goods or effects they may have; nor is any one going on a hazardous voyage prohibited from insuring, by a pol. lawfully executed, a certain sum of money for his ransom in case of being taken.

1734.—The gambling in Stocks and Funds, which had been so prevalent in the 17th century, and which had been restrained by the Legislature in 1696-7, as we have seen, had broken out with considerable fervour again during the few years preceding this date. It was the first symptom of recovery from the events of 1720. It does not appear clear whether in this instance the operation took the form of Ins. wagers, or otherwise. We are disposed to think the Ins. element did not come into play; but assuming it did, the words of sec. 4 of 7 Geo. II. c. 8—*An Act to prevent the infamous practice of Stock Jobbing*—would meet it. These are given briefly: *Every person who should make any contract relating to the present or future price of Stocks, upon which any prem. shall be given for liberty to put upon, deliver, accept or refuse, any Public Stock or Securities, or any contracts in the nature of Puts and Refusals, or should lay any such Wager, should forfeit £500.*

This is known as the "Stock Jobbing" Act [made perpetual in 1737], and will be referred to again under STOCKS, INS. THE PRICES OF; WAGERS, AS AFFECTING INS. CONTRACTS; etc.

1737.—There was enacted 10 Geo. II. c. 8—*An Act to make perpetual an Act made in the 7th year of the reign of H. present M. intituled "An Act to prevent the infamous practice of Stock Jobbing."*

1738.—The Ins. Ordin. of *Bilboa* promulgated this year, but which in the main re-enacted the provisions of a previous Ordin. of 1560, says:

No ins. may be made, on any pretext or occasion, on imaginary gains, masters, and sailors wages, nor on freights not effectively due, on penalty of its being void.

1745.—It is very certain that the meagre details here furnished between the collapse of the South Sea Bubble (1720) and this date, constitute but an imperfect outline of the incidents associated with Gambling Ins. It is our practice in this work to require *date, place, and circumstance, for the facts given*. Where these are obscure, we are compelled either to pass on in silence, or to fall back upon the labours of some preceding writer. We propose at the present juncture to fill up our picture by a passage from Mr. Francis (*Annals, Anecdotes, etc.*), merely premising that we are fully satisfied of the general accuracy of the details embodied in his sketch. Thus he covers the quarter of a century under notice (while occasionally his facts take a wider range) as follows :

This mode of speculation is one of the strangest by-ways in the annals of Ins. From 1720 much of the legitimate business had been usurped by it, policies being opened on the lives of public men with a recklessness at once disgraceful and injurious to the morals of the country. That of Sir Robert Walpole was assured for many thousands; and at particular portions of his career, when his person seemed endangered by popular tumults, as at the Excise Bill; or by party hate, as at the time of his threatened impeachment; the premium was proportionately enlarged. When George II. fought at Dettingen, 25 p.c. was paid against his return. The rebellion of 1745, as soon as the terror which it had excited passed away, was productive of an infamous amount of business. The members of Garraway's, the assurers at Lloyds', and the merchants of the Royal Exchange, being unable to raise or lower the price of stocks any more by reports of the Pretender's movements, made sporting assurances on his adventures, and opened policies on his life. Sometimes the news arrived that he was taken prisoner, and the underwriters waxed grave. Sometimes it was rumoured he had escaped, and they grew gay again.

The rebel lords who were captured in that disastrous expedition were another source of profit to the speculators. The grey hairs of old Lord Lovat did not prevent them from gambling on his life. The gallantry of Balmerino, and the devotion of Lady Nithsdale, raised no soft scruples in the minds of the brokers; and when the husband of the latter escaped from the Tower, the agitation of those who had perilled their money on his life, and to whom his violent death would have been a profit, is described as noisy and excessive. But no sooner was it known that he had escaped than fresh policies were opened on his recapture, and great must have been the indignation of his high-minded wife when she afterwards heard this trait of City character. (pp. 140-2.)

1746.—The speculation in connexion with Marine Ins. under "Interest or no Interest" pol. had during the past quarter of a century vastly increased, and now in their turn arrested the attention of the Legislature.

We have already intimated [see 1721] that it had come to be the custom to issue Marine Ins. pol. of this class. As a result of the system it constantly happened that the persons who took out a pol. upon a vessel or cargo had no interest whatever in the same, but merely did it for a speculation: in which case their ends were gained if the ship or cargo came to grief and the underwriter paid the money. But in order to make the underwriters do that, it was essential that the stipulation of "Interest or no Interest" be made a condition of the pol.

It is not at all difficult to comprehend that at a period when the seas were swarming with ships of war and privateers, waging war especially against the commerce of Great Britain, what great scope there was for such speculations. But if the evil had not gone further than such speculations pure and simple, it is not by any means clear that the Gov. would have interfered. Under the protection, however, of these "Interest or no Interest" pol., *Insurances were enabled to be effected on ships and cargoes of a contraband character, without declaring the nature of the goods covered*. In this way wool, which it was then contrary to law to export, was exported, and probably many other articles of merchandize, which in those "good old times" were under like restrictions.

It was under these circumstances that it came to be enacted by 19 Geo. II. c. 37, usually known as Sir John Barnard's Act, that after 1 August, 1746, no Marine Assurances were to be granted without further *proof of interest than the mere holding the pol., except (and the exception is instructive) in cases of assurances on private ships of war, fitted out by any of His Majesty's subjects, solely to cruise against any of His Majesty's enemies; and also except any merchandizes or effects from any ports or places in Europe or America, in the possession of the Crowns of Spain or Portugal, which might be speculated upon as before!* This important measure will be more fully reviewed under INTEREST OR NO INTEREST POL.

The Royal Charter of the Co. of Ins. at Copenhagen, under date 1 July, 1746, says :

No Ins. are to be allowed on uncertain and precarious things; or imaginary and such kind of profit, or on men's lives, *except for ransoming from Turks and pirates*.

1747.—There was pub. : *An Essay to Prove that all Ins. on Ships and Goods at Sea, beyond the Interest of the Assured, ought to be prohibited*. By a Merchant. The writer says :

... The permitting this absurd species of Ins. upon *no interest* to gain ground here, hath been the introduction of all those fraudulent practices by which so many ships and cargoes have been wilfully lost at sea.

It was about the time my Lord Somers held the Great Seal [1697], that ins. *interest, or not*, first appeared; but then the Court of Chancery could not conceive upon what principle either of law or equity it was, that the recovery of a recompense in damage, for a loss not sustained, could arise, and therefore vacated an ins., because it appeared that it was made on *no interest*; but afterwards means were found, under suggestions of advantage to the trade of the nation, to bring the law to acknowledge a validity and force in that which before was esteemed absurd and nugatory; and then the pol. of ins. *interest, or not*, became estab.

Soon after this the making of ins. vastly increased, for gamblers, wagers, and cunning fellows who pretended to deal in speculation, began to be almost as much concerned as the merchants : so that a pol. of ins. in a short time acquired rather the effect of a box of dice, than a contract to secure trade. And as gamblers seldom play fair after a few of the first games, it was not long before foul

play in assurances began to appear, which has ever since continued increasing, inasmuch that *it is now almost as common to hear of a wilful and fraudulent, as of an inevitable, loss at sea.*

Practice and experience are the great lights of bus., without which it is not known what things may be made to bear; though *speculative* ins., under the direction of proper intelligence, and other useful helps, was become a considerable branch, and carried on without employing any other money or stock than the premiums of ins.; yet experience disclosed, that as all those ins. were to be made on the ship only, *the care of a cargo might sometimes obstruct the beneficial loss of a ship, and keep ins. upon no interest within narrower bounds than otherwise it would be, if ways could be found of profiting by a loss of the cargo, as well as by that of the ship*: for hitherto ins. upon goods could not be made otherwise than upon their value.

This introduced another new species of ins. called a "*Valued Pol.*," whereby the insured might value his interest at £1000, although it was not really worth so many shillings, and no other proof was to be required than the production of the pol.; so that now by ins. *interest, or not, on the ship, and valuing the goods at ten times their worth, nothing can happen so much to the disadvantage of the insured as the arrival of the ship and cargo*—a circumstance affording small hopes of safety in such adventures; but it is the state into which the bus. of ins. is brought, by leaving the door of fraud wide open: *for the frauds of the insured, in common estimation, are almost equal in risk to any other peril usually insured against, especially in time of war, when colourable captures are easily contrived, by entering into confederacies with the enemies of the nation—a practice of which instances appear almost every day.* Under these circumstances it is that this great branch of trade called Ins., which hath been accounted so valuable, is now esteemed, upon the whole, rather a losing than a beneficial part of bus. . . .

This question will be discussed in detail under VALUED POL. [MARINE INS., HIST. OF.]
1750.—By the Ordin. of Ins. and Averages made at *Stockholm*, 20 Oct. 1750, it is provided:

Art. 2, s. vii. All wagers concerning voyages, together with other the like fortuitous practices, shall be entirely suppressed.

It is sufficiently known that the *Coffee Houses* of the eighteenth century were the resort of all who sought intelligence or loved the company of the wits and fine men about town. To one of these, in St. Martin's Lane, De Moivre went, where it was customary to apply to him for the solution of many questions connected with annuities, and for answers to queries concerning games of hazard, which were propounded to him by those who hoped to turn the chance of loss into a certainty of gain. The payment of these questions was his chief mode of subsistence; and there is something unpleasant in the memory of this man, compelled, in his old age, to be at the bidding of gamblers, and to consort with men who lived on the town by their wits.—*Francis.*

We fix the middle of the 18th century as about the time when this great man's necessities especially made him dependent upon this means of existence.

1753.—Magens, in his *Essay on Insurances*, first pub. in *Hamburg* this year; and in England two years later—and who is justly regarded as a high authority—says:

Merchants may be allowed to try their skill in judging or conjecturing about the rise or fall of the price of any commodity, provided no prejudice arise from it to the public, nor any frauds be committed. A covenant of this nature may be called a *wager*, rather than an ins. Goods will preferably be sent to places where trade is neither limited nor cramped. Some persons may lose by a contract to deliver goods at a fixed time; on the other hand, some will be gainers; and as such *bargains* or wagering must draw the importation of more goods than otherwise could be expected, they will always be of advantage to the public: nevertheless we would observe that no such gaming should be allowed of in corn, or other necessary provisions; as that a prem. should be given to have such a quantity delivered at such a price: nor should any forestalling be allowed of, as the buying of wool or other unwrought materials necessary for home fabrics; much less should these commodities be permitted to be exported; but all trading cities, on the other hand, ought to encourage as much as possible the importation of such goods as are mostly sent out again. People taking too great latitudes, there was a restraint laid on these negotiations, as appears by a placart of Amsterdam, the date we cannot recollect; nevertheless they are still practised there, though the fulfilling such engagements depends on the party's honour, as they are not by law bound to perform their covenants.

From the same authority we learn that all such gambling contracts were forbidden in *Hamburg* in 1746.

1758.—Lord Mansfield, in delivering the opinion of the Court in the case of *Goss v. Withers*, distinguishes between *wager pol.* and *pol.* upon real interest, in order to show that, in an action upon the former, the plaintiff could only recover in the case of a total loss; but that upon the latter the insured might recover the loss really sustained, whether total or partial. *The effect of this judgment was to make wager pol. legal contracts.*

1759.—On the 16th Oct. this year an ins. was made for a year against the capture of Fort Marlborough, in the Island of Sumatra, in the East Indies, by an enemy, for the benefit of the governor, George Carter. The governor's instructions for the ins. were dated the 22nd Sept. 1759, and the pol. was signed in May, 1760. The fort was taken within the year, namely, in April, 1760. In an action to recover the ins. it was objected that there was fraud on the part of the insured, by the concealment of circumstances which ought to have been disclosed; particularly the weakness of the fort, and the prob. of its being attacked by the French. This was offered to be proved by two letters; one from the governor to R. Carter, his brother and agent; and the other to the India Co., from which it appeared that the French, being unable to relieve their friends on the coast, were the more likely to make an attack on this settlement, which they had designed to take by surprise the year before; and that the broker who effected the pol., on his cross-examination, said that in his opinion these letters ought to have been produced, or the contents disclosed; for if they had, the pol. would not have been underwritten. In reply to this it was shown that the governor had £20,000 in effects in the fort, and had only insured £10,000; that it did not appear that the French had any design to make the

attack till the end of March; that the governor had acted as in full security down to Feb., and in that month had turned his money into goods; and that though his office was mercantile and not military, he was guilty of no fault in defence of the place, which was not calculated to resist an European force, but only for defence against the natives. The plaintiff obtained a verdict. Upon a motion for a new trial, the Court, after deliberation, was clearly of opinion that the plaintiff was entitled to recover; but the judgment of Lord Mansfield on the occasion has been called in question by subsequent authorities.—See FORTS, INS. OF.

1761.—Mr. David Scott, in *Every Man his own Broker*, pub. this year, gives the following account of the Gambling Ins. transactions of this period:

Another manner of spending the vacation formerly was *in insuring the lives of such unfortunate gentlemen as might happen to stand accountable to their country for misconduct*. I am not willing to disturb the ashes of the dead, or I could give an account of this cruel pastime, the like of which is not to be met with in any civilized nation. . . . A practice likewise prevailed of insuring the lives of well-known personages, as soon as a paragraph appeared in the newspapers announcing them to be dangerously ill. The ins. rose in proportion as intelligence could be procured from the servants, or from any of the faculty attending, that the patient was in great danger. This inhuman sport affected the minds of men depressed by long sickness; for when such persons, casting an eye over a newspaper for amusement, saw their lives had been insured in the Alley at 90 p.c., they despaired of all hopes, and thus their dissolution was hastened. But to the honour of the principal merchants and underwriters, they caused an advertisement some years since to be fixed up at Lloyd's Coffee-house declaring that they would not transact bus. with any brokers who should be engaged in such infamous transactions.

Insuring of property in any city or town that is besieged is a common branch of gambling insurance in time of war, but ingenious gamblers, ever studious to invent new and variegated old games, have out of this lawful game (for ins. in general is no more than a game at chance) contrived a new amusement, which is for one person to give another £40, and in case Gibraltar for instance is taken by a particular time, the person to whom the £40 are paid is to repay £100; but if, on the contrary, the siege is raised before the time mentioned, he keeps the £40.

In proportion as the danger of being taken increases, the premium of ins. advances; and when the place has been so situated that repeated intelligence could be received of the progress of the siege, I have known the ins. rise to £90 for the £100. A fine field this opens for spreading false reports, and making private letters from the Continent. But how infinitely more harmless to trifle with property than to affect the life of a fellow-subject, or to injure him with the public to serve a private end.

Of sham ins., that is to say insurances without property on the spot, made in places besieged in time of war, foreign ministers residing with us have made considerable advantages. It was a well-known fact that a certain ambassador insured £30,000 on Minorca in the war of 1755, with advices at the same time in his pocket that it was taken.

1765.—This year an incident occurred which caused much speculation of the character we have already described. Some 800 German emigrants—men, women, and children—had been brought to London by a speculator, and were then deserted by him. They lay in Goodman's Fields, in the open air, in a strange land, and without food. On the third day several expired from hunger and exposure. It was then that the demon of speculation turned towards them, and the assurance speculators were ready, and wagers were made as to how many would die in the week. Happily, when their condition became known, the hand of charity, never slack in a good cause, was extended to these poor people, and so the speculation came to an end.

Another adventure about this period excited still more the cupidity of underwriters and assurers, and produced larger and more varied pol. than any except of the sex of D'Eon (of which we give an account later). It was spread in the papers that a country baronet had laid a heavy wager that he would go to Lapland, and in a given time bring home two females of the country and two reindeer. This, which was originally only a bet between a couple of foolish young men, created a mania at Lloyd's: pol. were first opened that the baronet would not return within the time; then that he would not return at all; then that he would die before he reached Lapland. The next movement was to speculate on his returning with the women; and this increased the premiums enormously, immense sums being risked on the childish enterprise. Merchants and men of rank joined in the assurances; and when the adventurer came back with his Lapland deer and Lapland ladies, large sums were paid by those underwriters who had speculated on his failure.—*Francis*.

1768.—The *London Chronicle* during this year offered the following comments upon the Gambling Ins. prevailing:

The introduction, and amazing progress, of illicit gaming at Lloyd's Coffee-house is, among others, a powerful and very melancholy proof of the degeneracy of the time. Though gaming in any degree is perverting the original and useful design of that coffee-house, it may in some measure be excusable to speculate on the following subjects: Mr. Wilkes being elected member for London; which was done at from 5 to 50 guineas p.c. Mr. Wilkes being elected member for Middlesex; from 20 to 70 guineas p.c. Alderman Bond's life for one year, now doing at 7 p.c. On Sir J. H. being turned out in one year, now doing at 20 guineas p.c. On John Wilkes' life for one year, now doing at 5 p.c. N. B. Warranted to remain in prison during that period. On a declaration of war with France or Spain in one year 8 guineas p.c. But (continued the same Journal) when policies come to be opened on two of the first Peers in Britain losing their heads at 10s. 6d. p.c. and on the dissolution of the present Parl. within one year at 5 guineas p.c. which are now actually doing, and underwritten chiefly by Scotsmen, at the above coffee-house, it is surely high time to interfere.

It may be thought that the sense of honour and high principle which governed this journalist were a little erratic. We simply quote this and other authorities in confirmation of incidents which without such current testimony would appear incredible.

Mr. Francis enlarges upon these events as follows :

When Wilkes was committed to the Tower, pol. were granted at 10 p.c. if he remained there a specified time. King George when he was ill, and Lord North when he was unpopular, were both scheduled in the brokers' books as good subjects. When *Minorca* was lost, and the premier Duke of Newcastle began to tremble for his place, and for the only thing that was dearer to him than his place, his neck, there were plenty to open pol. on his life, and plenty to avail themselves of the chances which threatened him. Assurances were entered into on the life of the Regent Orleans of France; and when he was succeeded by Louis Quinze, they insured, not the lives indeed, but the continuance of his mistresses in the favour of the monarch. Day by day during the trial of the Duchess of Kingston for bigamy, there were frequent expresses from West to East with information of the proceedings, which, according to its chances, varied the premiums, and excited the cupidity of the assurers. *There was absolutely nothing on which a pol. could be opened, that escaped altogether from this mode of gambling. Scarcely a nobleman went to his long account without an assu. being opened during his illness, by those who had no interest in his life.*

1771.—The case of the *Earl of March v. Pigot*, tried this year, is as remarkable in its details as any that have come before the Courts. The wager was made at Newmarket between young Mr. Pigot and young Mr. Codrington, to run their fathers (to use a sporting phrase) against each other. Sir Wm. Codrington, the father, was then a little turned of 50. Mr. Pigot's father was upwards of 70. Lord Ossory computed the chances, according to these ages. Mr. Codrington thought the computation was too much against him : whereupon Lord March agreed to stand in Mr. Codrington's place; and reciprocal notes were accordingly given between the Earl and Mr. Pigot. Mr. Pigot's note ran thus :—"I promise to pay to the Earl of March 500 guineas if my father dies before Sir William Codrington.—*William Pigot.*" The Earl's was :—"I promise to pay to Mr. Pigot 1600 guineas in case Sir Wm. Codrington does not survive Mr. Pigot's father.—*March.*" No mention was at all made, at the time of this transaction, of their fathers being then dead or alive; but the fact was, that Mr. Pigot's father was then actually dead; he died in Shropshire, 150 miles from London, at 2 o'clock in the morning of the same day on which the bet was made at Newmarket after dinner. However, this fact was not at all known, at the time, to any of the parties; nor was there any reason for suspecting that Mr. Pigot's father was then dead. There was no objection made at the trial against going into parol evidence. Lord Mansfield left the matter to the jury, who found a verdict for the plaintiff for full amount claimed. There was an application for a new trial, one of the grounds being that there was no possibility of the defendant winning, his father being then actually dead. After a series of very learned arguments before the judges, the rule for a new trial was refused, and therefore the judgment for the plaintiff stood. This was regarded as an ins. wager.

Mr. Bunyon, speaking of this case, says : The Court upheld the wager, considering that the mere survivorship was the thing intended to be betted upon, and there was no suggestion that it was illegal on the ground of public policy. He thinks words equivalent to "lost or not lost" should have been inserted in the contracts to make the meaning clear.

In the *Public Advertiser* (then the leading newspaper) of Dec. 6, this year, we find the following paragraph :

We have the pleasure to assure the public from the most undoubted authority that the repeated accounts of her Royal Highness the Princess Dowager of Wales being very ill, and her life in great danger, are entirely false; such reports being only calculated to promote the shameful spirit of gambling by ins. on lives!

1772.—The next succeeding phase of the spirit of Gambling Ins. was a return of the system of *Ins. of Bargains*—which at an earlier period [1696-7] had prevailed very extensively alike here and in *Holland*. [BARGAINS, INS. OF.] [HOLLAND.] During the present year Sir George Colebrooke and his associates entered into what may fairly be termed a trade conspiracy to raise the price of alum to £30 per ton within 6 months. The transactions were covered by pol. of ins. and disputes arose thereon. The matter ultimately came before the Law Courts. The Act of 1708 was said not to reach cases of this class.

1774.—There was enacted the 14 Geo. III. c. 48, *An Act for Regulating Insurances upon Lives, and for Prohibiting all such Ins. except in cases where the Persons Insuring shall have an Interest in the Life or Death of the Persons Insured.* Its provisions are so important that we give them entire :

I. Whereas it hath been found by experience that the making Ins. on Lives or other events wherein the assured shall have no interest, hath introduced a mischievous kind of gambling. For remedy whereof be it enacted, etc. That from and after the passing of this Act no Ins. shall be made by any person or persons, bodies politick or corporate, on the life or lives of any person or persons, or on any other event or events whatsoever, wherein the person or persons for whose use, benefit, or on whose account, such policy or policies shall be made, shall have no interest; or by way of Gaming or Wagering; and that every assu. made contrary to the true intent and meaning hereof, shall be null and void, to all intents and purposes whatsoever.

II. And be it further enacted, That it shall not be lawful to make any policy or policies on the life or lives of any person or persons, or other event or events without inserting in such policy or policies the person or persons name or names interested therein, or for whose use, benefit, or on whose account such policy is so made or underwrote.

III. And be it further enacted, That in all cases where the insured hath interest in

such life or lives, event or events, no greater sum shall be recovered or received from the insurer or insurers than the amount or value of the interest of the insured in such life or lives, or other event or events :

IV. Provided always, That nothing herein contained shall extend or be construed to extend to Insurances *bona fide* made by any person or persons on ships, goods, or merchandises ; but every such insurance shall be as valid and effectual in the law, as if this Act had not been made.

Mr. Bunyon—*Law of Life Assu.*—offers the following obs. on this measure :

This statute, it is to be observed, applies not only to pol. on lives, but to pol. on any other event or events whatsoever ; and so sweeping are its words that it is not very easy to say what description of wager, if reduced to writing, might not be invalidated by them ; the affirmative of this position being maintained by Mr. J. Buller in *Good v. Elliot* [3 T.R. 693], but overruled by the majority of Judges. From this and the accompanying cases, however, it would appear that the legislature had in contemplation such contracts only as were either ordinarily considered or were conceived in the form of insurances. It seems to have been the opinion of Lord Kenyon that to bring the case within the Act the contract must have been reduced to writing, since it had required the insertion therein of the names of the parties interested.

Mr. Bunyon further points out :

It is not, moreover, every contract for the payment of money upon the death of a particular person that will be considered an ins., and within the Act. Thus post-obit bonds, as we have observed, have never been so ; nor settlements containing covenants for the payment of money in any such event. And in the recent case of *Cooke v. Field*—where the question was raised—a contract by which a sum of money was agreed to be returned without interest upon the death of E.F. provided A.B.—an expectant devisee under the will of E.F.—could not then make a good title to a certain real estate, was held not to be an ins., or within the Act.

At a meeting of the subscribers to *New Lloyd's Coffee House*, held on Friday, 4th March, 1774, it was resolved :

That it be recommended to the subscribers to discountenance shameful practices which have been introduced of late years into the business of underwriting, such as making speculative insurance, on the lives of persons and on Government Securities. In the first instance it is endangering the lives of the persons so insured from the idea of being selected from society for that inhuman purpose, which is being virtually an accessory in a species of slow murder. In the second instance of speculative insurances on the stocks, it is notorious, they are calculated for the purpose of stock-jobbing, and tend to weaken public credit. It is therefore hoped that the insurers in general will refuse subscribing such policies, and that they will show a proper resentment against any policy broker who shall hereafter tender such policy to them.

N.B.—Ins. on the public funds are by Act of Parl. liable to a penalty of £500 as well on the insurer as on the person doing such pol.

1777.—There had of late years sprung up another species of gambling on lives, to which we have heretofore made but indirect reference—this was in connexion with the grant of *annuities*. No doubt the primary object in these dealings was to defeat or evade the Usury Laws. Finally, this year, there came to be enacted the 17 Geo. III. c. 26—*An Act for Registering the Grants of Life Annu.: and for the better Protection of Infants against such Grants*—which recited, “Whereas the pernicious practice of raising money by the sale of life annu. hath of late years greatly increased, and is much promoted by the secrecy with which such transactions are conducted.” The measure was, on the whole, a very unwise one, although its objects were good. That it did not stop gambling dealings in annu. is clear from the facts given in our Hist. of Life Annu.

Neither did the Act of 1774 stop the gambling in what were termed *Insurances*. It was after that date that the numerous pol. were opened in connexion with her Grace of Kingston (already referred to in a quotation from Mr. Francis). And it was prob. afterwards that many if not most of the ins. wagers were entered upon regarding the sex of the Chevalier D'Eon ; although some had been entered into as early as 1771. The circumstances connected with these pol. are about as remarkable as are those of any case connected with this branch of our subject, as the following facts will show :

Charles D'Eon de Beaumont was an Advocate of the Parliament of Paris and Censor-General of Belles Lettres and History, in that city. He was born in Burgundy in 1727, of respectable parents, received a respectable education, and was called to the Paris bar. In 1755 he was introduced to Louis XV. by the Prince de Conti, and it is said that thenceforward he maintained a secret correspondence with the sovereign. On this mission he went for the first time in female attire. The object of the visit was to approach the Empress Elizabeth with the view of putting an end to the ill-feeling between the French and Russian Courts, and more especially to promote the private interests of his patron, the Prince de Conti, with the Empress. The next year he went to St. Petersburg as Sec. of Embassy. During the next two years he was actively employed in intrigue and negotiation. Meanwhile he had been appointed a Lieut. of Dragoons. In 1758 he was made a Captain ; and a few years later distinguished himself in several engagements. In 1761 he was appointed Secretary to the French Ambassador to England. About the year 1772 the Chevalier was a principal in two duels in England, and it was a wound received in one of these which led to the serious suspicion that he was a woman. This incident led to the opening of numerous ins. wagers regarding his sex.

At this stage we had better give a copy of the pol. upon which an underwriter was sued ; we suppose that the numerous other pol. were of the same description :

In consideration of fifteen guineas for one hundred pounds and according to that rate for every greater or lesser sum received of Mr. William Watts of Upper Thames Street London we whose

names are hereunto subscribed do for ourselves severally and our several heirs executors administrators and assigns and not one for the other or others of us or for the heirs executors administrators or assigns of the other or others of us engage and promise that we respectively or our respective heirs executors administrators or assigns shall and will pay or cause to be paid to the aforesaid Mr. William Watts, his heirs executors administrators or assigns the full sum or sums of money we have hereunto subscribed in case it shall be made appear at any time hereafter that the Chevalier D'Eon, late Secretary to the Count de Guerchy Ambassador from the Court of France, is of the female sex that is to say in order to the recovery of this policy the above mentioned Chevalier D'Eon shall prove to be a woman, London, 11th January 1777.

Here follows the subs. of the underwriter: "£500. Joseph Jacques Five Hundred Pounds. Prem. received 13th Jan. 1772."

The pol. was endorsed as follows: "For any particulars relating to Mr. Jacques, enquire of John Roberts, Esq., King Arms Yard, Coleman Street."

"London 31st July 1772. Pay the contents . . . or order for value received."

And it was externally endorsed: 13 Jan. 1772. Ins. on the Chevalier D'Eon. £500 at 15 guineas £78 15s. Pol. 7s. 6d.—£79 2s. 6d.; No. 1753; folio 295; entered P. Warren.

The following is a copy of the "case" submitted to Counsel on behalf of the underwriters, in an early stage of the proceedings, under another but similar pol.:

In the King's Bench *Hayes* agt. *Motteux* (see the declaration and policy left herewith). Abstracted from the fact whether D'Eon be male or female, the underwriters make the following objections to the plaintiff's recovering in this action, viz.

1st. That the fact or event mentioned in the policy and on which the plaintiff is to found his right to recover was not at the time of subscribing, or at any time, contingent, but was from D'Eon's birth unalterably fixed, determined, and incapable of variation, and therefore never could be the subject of insurance or wager, and that in all cases of insurance there must have existed a contingency or possibility of variation in the event, so as that at a certain period it must have been uncertain what the event would be. That there must in all these cases be a chance or risque, and a possibility of the event on which the insurance is made turning out in favour of the assured, or of the underwriter, and that this cannot be where the fact or event never was capable of variation. D'Eon was born either a male or a female, and the sex never was capable of being changed.

(You will observe the declaration does not state the pol. Can it be given in evidence?)

2ndly. That the subject of the insurance or wager is *contra bonos mores*. That it cannot be discussed or a decision on it obtained in a court of justice without a breach of public decency and good manners. That it is similar to many cases that may be put. For example, suppose an insurance or wager whether A.B. had carnal knowledge of his wife on the first night of his marriage or how often he had repeated the act. An action on such a policy or wager could not be maintained.

If either of these objections are good in law, the underwriters rather wish to have the fact ascertained by a trial, and in case it should be found against them to avail themselves of it by motion in arrest of judgment, if the objections may be sustained after verdict. If not they would (under your advice) demur.

Opinion.—I cannot advise the defendants to demur on either of the grounds here stated. As to the first objection if there was any foundation for it, it would apply to all wagers relative to events which had happened at the time of the wager being laid, as for example to a wager that such a horse won a race yesterday at Newmarket, that such a general won a battle in a particular country or at a particular time, and the like. In these cases the events having happened are not contingent at the time of the wager's being laid, but as far as relates to wagers all events are contingent and uncertain which are unknown, and there is no difference between a wager on a past event with which the parties are entirely unacquainted, and a wager on an event that is future.

I doubt that there is as little ground for the second objection. The defendant's hope must therefore be from the defect of the plaintiff's proof, which will not prevail in such a case unless it is very satisfactory.

The defendant must plead the general issue, and if he would take the chance of objecting afterwards to the validity of the contract, he should pay the premium into Court. (Signed) J. Mansfield.

[This "J. Mansfield" must not be confounded in any way with Lord Mansfield, before whom this case was tried.]

The following particulars of the trial of the case under yet another pol. we draw from the *Annual Register* for this year:

1st July.—This day came on for trial before the Lord Chief Justice Mansfield, a cause, the most extraordinary that ever happened in this or any other country, respecting the sex of the Chevalier d'Eon, formerly Ambassador from France to the Court of England, etc. The action was brought by Mr. Hayes, surgeon, in Leicester Fields, against one Jacques, a broker and underwriter, for the recovery of £700, the said Mr. Jacques having, about six years ago, received premis. of 15 guineas p.c., for every one of which he stood engaged to return 100 guineas, whenever it should be proved that the Chevalier D'Eon was actually a woman.

Mr. Buller opened the case as counsel for Mr. Hayes. He stated the fairness of the transaction, and the justifiable nature of the demand, as Mr. Hayes now thought himself to be in possession of that proof which would determine the sex of the Chevalier, and for ever render the case indisputable. He called Mr. Goux, a surgeon, who stated that "he had been acquainted with the Chevalier D'Eon from the time when the Duc de Nevenois resided in England as French Ambassador, and that to his certain knowledge the person called the Chevalier D'Eon was a woman." On cross-examination, Mr. Le Goux stated that he had arrived at this knowledge in the course of a medical attendance on the Chevalier. Then M. De Morande was called, who gave equally strong evidence in support of that of Mr. Le Goux.

Mr. Mansfield, on the part of the deft., pleaded that this was one of those gambling, indecent, and unnecessary cases, that ought never to be permitted to come into a Court of Justice. That besides the inutility and indecency of the case, the plaintiff had taken advantage of his client, being in possession of intelligence that enabled him to lay with

greater certainty, although with such great odds on his side. That the plt. at the time of laying the wager knew that the Court of France treated with the Chevalier as a woman, to grant her a pension. And that the French Court must have some strong circumstances to imbibe that idea. Therefore he hoped the jury would reprobate such wagers. The def't's counsel did not attempt to contradict the plaintiff's evidence by proving the masculine gender.

Lord Mansfield, in the course of the trial, expressed his abhorrence of the whole transaction, and the more so their bringing it into a Court of Justice, when it might have been settled elsewhere, wishing it had been in his power, in concurrence with the jury, to make both parties lose. But as the law had not expressly prohibited it, and the wager was laid, the question before them was, who had won? As to the fraud suggested of the plaintiff knowing more than the def't., he seemed to think there was no foundation for it.

His Lordship then charged the jury: Gentlemen, this is a gambling debt. I should be glad if the verdict could so operate that neither party should be the winner; but as one must lose, you have only to consider which of them ought to win. With respect to the contract on which the action is founded, there is not anything illegal in it. It is binding on both parties. The discovery of the sex of a certain person is to give it operation. There was every external proof that the defendant was right in his conjecture. D'Eon dressed as a man. She would have fought duels. She was a Captain of Dragoons. Resided here as an ambassador. To all outward appearance, therefore, the defendant had the best of the wager. On the part of the plaintiff there was considerable difficulty. Suppose him to have been right, yet the proof was not easy. It was not in the power of any one to compel D'Eon to disclose her or his sex. Was it known, the proof still rested on the plaintiff. It was thrown out that he was sure of the fact at the time he laid the wager. The contrary had appeared. He had no proofs in his power when the contract was made. The Court of France was not apprised of the fact. It regarded D'Eon as a man. His Lordship was of opinion they would find a verdict for the plaintiff.

The jury without hesitation gave a verdict for £700 and 40s.; but the inglorious uncertainty of the law was again made manifest:

On the 3rd Feb. in the succeeding year, we find the following record: On Saturday last the pol. business respecting the sex of Madam D'Eon was solemnly argued before Lord Mansfield in the Court of King's Bench, when the def't. pleaded a late Act of Parl. for the non-payment of the pol. he had underwritten, which statute provides, That no ins. shall be valid, where the person insuring cannot prove an antecedent interest in the person or thing insured. The Chief Justice admitted the statute to be binding in the present instance; "by which decision all the insurers in the above transaction will now be deprived of the golden harvest they have so long expected."

In one part of the case it was contended that the instrument in this case was not a pol. of ins., but merely a bet reduced to writing. The Court, however, held that it was a pol. of ins. within the Act.

1778.—In another action upon the same question, *Da Costa v. Jones*, tried this year, Lord Mansfield directed an arrest of judgment, and said:

The Chevalier might have complained to the Court that this was a shameful and indecent trial, a wager of two gamblers at his expense, and the trial would have been quashed. Shall people lay wagers to affect third parties with penal punishments? shall a wager be laid that such a woman is an adulteress, got with child, and have a bastard by one of the gamblers? and all their friends, relations, physicians, nurses, and confidants be harassed into a court of justice, to expose and vilify a lady at the pleasure of a couple of gamblers? that such a person is man or woman, and to gratify a couple of gamblers? a court of justice shall solemnly sit, and perhaps divest such third person of a considerable fortune by such inquisition? Shall I lay a wager that such or such a lady has such or such a mark on her body, or that she has the foul disease? and shall the necessary evidence be dragged into Court to estab. a fact for the shocking purpose of pleasing those who can sport with the ease, peace and happiness of society?

After several similar arguments, his Lordship severely reprobated the whole proceedings.

In yet another case the form of pol. was as follows: In consideration of 35 guineas for 100 received of *Roebuck and Vaughan*, we whose names are hereunder subscribed, do severally promise to pay the sums of money which we have hereunto subscribed, on the following condition: viz. in case the Chevalier d'Eon should hereafter prove to be a female, valued at the sum insured without further proof of interest than this policy.

It is stated, upon what was regarded as good authority, that no less than £70,000 was at stake upon pol. of this class, and the Chevalier had been offered as much as £30,000 for disclosure of sex. It was said, or insinuated, that many of the pol. were effected for or on account of parties resident in France. D'Eon left London on 16 July, 1777, declaring in the most solemn manner that she had no interest whatever in the pol. issued upon her sex; and she said she "left dear England with grief, where she had hoped to have found repose and liberty."

We have only to add that D'Eon arrived at Versailles in the same year, in the uniform of the Dragoons, and that henceforth—and notwithstanding the solemn verdict of the British jury—we have to speak of this individual as of the male sex. In 1784 he returned to London. In 1792 he was again at Paris, and petitioned the National Assembly as Madame D'Eon to be allowed to serve in the army. Madame stated that "though she had worn the dress of a woman for 15 years, she was desirous of doffing cap and petty-

coats for helmet and sabre." No action was taken on the petition, whereupon the Chevalier once more turned his face towards London, where he gave lessons in fencing. He died in that city in 1810 in poverty. His assumption of female attire (as already intimated) seems to have arisen at first, out of an exigency, and was probably continued for purposes of various kinds. A post-mortem examination was made by eminent French and English surgeons, which left no doubt as to his being of the male sex.

In this same year arose the case of *Mollison v. Staples*, where a pol. had been made on the event of there being an open trade between Great Britain and the Province of Maryland on or before the 6th July in that year. Lord Mansfield said: It was clear the plaintiff could not recover. First: is this an interest within the Act? It (the Act) was made to prevent gambling pol. Every man in the kingdom has an interest in the event of war and peace; but I doubt whether that be an interest within the Act. But secondly the pol. is void by not having the name inserted according to the second section of the statute.

1781.—Weskett, in his famous work upon *Insurance* pub. this year, says: Many other sorts of Insurances upon other sorts of things in the nature of *wagers*, or *bargains*, upon contingencies, have been introduced: concerning which the agreement of the parties is the rule which governs; that a man shall live such a time; that one man shall outlive another; that a voyage shall be performed in a given time; that a ship shall arrive at such a port before such a fair; and every other contingency, *may be insured at a fixed sum.* (pp. 416-7.)

1782.—We now reach another phase of the bus., and this is the class of speculations which took place under the title of *Lottery Ins.*—not indeed that this class of gambling had not long prevailed; but the rather that legislative attention was now drawn to it. There was enacted the 22 Geo. III. c. 47—*An Act for Licensing Lottery Office Keepers, and Regulating the Sale of Lottery Tickets.* The exact provisions of this measure will be referred to under **LOTTERY INS.** The following notes on this period are taken from Mr. Francis' *Chronicles and Characters of the Stock Exchange.* They prob. are not overdrawn although they are deficient in chronological exactitude:

Up to the year 1780, although these many evils were well known, *insurances and every species of gambling connected with the Lottery were legal.* But the malady grew so violent, that after much urging a step was taken in the right direction. *Ins. were declared illegal, and prohibited under very heavy penalties.* So many however were imprisoned—and perjury was not wanting, for the sake of the penalty—that some check was necessary. A Law therefore was made, preventing any one from suing save the Attorney-General; and some idea may be formed of the extent of the evil from the fact that between 1793 and 1802 upwards of 1000 were punished with imprisonment. *But the determination to insure surpassed the determination to punish.* The officers of Government were absolutely defied. Blood in defiance of that which the Law declared illegal was freely shed. So organized was the system, that 2000 clerks, and 7500 persons known as "Morocco Men," with a numerous staff of armed ruffians, were attached to the *Ins. Offices.* Committees were held three times a week; measures were invented to defeat the magistrates; money to an enormous extent was used to bribe the constabulary; while to those who refused to be bribed, a bold and insolent defiance was offered, with threats which the officers well knew would be executed, at the risk or even the certain sacrifice of life. (p. 149.)

Mr. Thomas Mortimer, the well-known writer on Political Economy, speaking, about this date, of the dealings in Speculative Insurances upon the National Funds, Besieged Cities, etc., says:

To this branch of jobbers also belong the Foreign Ambassadors, Ministers, and Residents at our Court, with their numerous train of Secretaries, Agents, and other dependents, all honourable spies, who being earlier apprised than the public of any alteration likely to affect our funds, play a sure game, and often retire to their respective countries with comfortable fortunes.

1788.—In the case of *Dwyer v. Edie*, before the English Courts this year, it was determined by Buller, J., that the holder of a note for money had no insurable interest in the maker's life. [INSURABLE INT.]

1802.—The life of the first Napoleon was trafficked with by underwriters during the whole of his wonderful career. The various contributions in the funds, dependent on his life, entered into by jobbers, made it very desirable to insure it; and thus a semi-insurable interest was obtained. In this way very large speculations were hedged; and as every campaign and every battle altered the aspect of affairs, the premis. varied considerably. Sometimes private persons acted as insurers. Thus in 1802, as Sir Mark Sykes entertained a dinner party, the conversation turned—as almost all thoughts then turned—to Buonaparte, and from him to the danger to which his life was daily exposed. The Baronet, excited partly by wine and partly by loyalty, offered on the receipt of 100 guineas to pay any one one guinea a day so long as the French Emperor should live. One of the guests, Mr. Gilbert, a clergyman, closed with the offer; but finding the company present object, said that if Sir Mark would ask it as a favour he would allow him to be off his bargain. To a high-spirited man this was by no means pleasant, and the Baronet refused. The clergyman sent the 100 guineas next day; and for more than 2 years Sir Mark Sykes paid 365 guineas; when thinking he had suffered sufficiently for an idle joke, he refused to pay any longer. The recipient, not disposed to lose his annuity, brought an action, which was eventually carried to the highest legal authorities, and then finally decided in favour of Sir Mark Sykes; the Law Lords not being disposed to give the plaintiff a life interest in Buonaparte to the extent of 365 guineas a year.

The preceding account is but a *résumé* of the case of *Gilbert v. Sykes*, reported in 16

East, p. 150. Napoleon was at this date but First Consul. As he advanced in power, so the gambling ins. upon his life became intensified.

Early in the present century the "Little Goes" broke out again, this time in connexion chiefly with Lottery Ins. schemes, and there was enacted the 42 Geo. III. c. 119—*An Act to Suppress certain Games and Lotteries not authorized by Law*. This measure will be reviewed in greater detail under LITTLE GOES. [LOTTERY INS.]

1804.—So uncertain was the life of Napoleon regarded at this period, that 55 guineas p.c. was paid upon it for one year. Mr. Francis says:

No fiction was more favorite or more frequent than that which detailed his death; and in this the powerful invention of the romancer was often proved. Poison and steel, the dagger of the conspirator and the bullet of the republican, were constantly asserted to have ended his career. On one occasion, it was universally credited that the great Corsican was no more. A despatch had been received by Lord Grenville, and circumstantially detailing its manner. No doubt was entertained; the funds rose, and the news spread. Some very loyal persons set the bells ringing in a suburban village, and the whole affair bore the aspect of truth. The story circulated, wore an appearance of romance entirely in keeping with the career of the man whose death was announced. It was stated that Napoleon, having called a council of war, to which he had invited one of the wild chiefs of the Desert, who professed attachment till he could procure revenge, had been shot by him in open council. News was not then so frequent, information was not so widely diffused; and the document was credited much longer than it would have been a quarter of a century later. It deserves to be mentioned as a curiosity that the forgery was not attributed to members of the Stock Exchange, but to a pair of "State speculators," assisted by "Members of the Lower House." But though it was not caused by them, they felt its effect in the fluctuating price, and several were ruined by the ingenious device of these "State speculators" and "Members of the Lower House."—*Chronicles and Characters of the Stock Exchange*, p. 227.

1810.—Again the spirit of gambling had broken out in connexion with marine and other branches of ins.; and had invaded *Lloyd's*, not indeed for the first time. At a meeting of the Committee for managing the affairs of *Lloyd's*, held 21 Nov. this year, the following resolution was passed:

The Committee, having made inquiry into the practice of effecting gambling pol. of ins., regret to find, that it has prevailed to a very considerable extent for several years past, particularly in the years 1807, 1808, and 1809, and that it still continues; embracing not only ins. upon missing ships, where the parties effecting the pol. have had no real interest (these ins. having been done in defiance of the law upon "Interest or no Interest"); but also upon the event of the rise and fall of the public funds (equally by the law declared to be illegal): upon all the events of the war in Europe: particularly upon the capture of most of the principal towns, and—more especially during the whole of the unprincipled warfare now pursuing by the French in Spain and Portugal—upon the capture of the enemy's colonies; upon the passing and repealing of the different laws of non-intercourse in America; upon the continuance or repeal of the Law of Embargo there; upon the passing towards the last Session of Parliament, the Act for preventing the Distillation from Grain; and upon various other subjects; all of which, the Committee have too much reason to believe, have no other foundation, than a determined and unjustifiable spirit of gambling.

The Committee cannot but be of opinion, that this practice, apparently licensed by its great prevalence, has led to a general accusation, that this House gives encouragement to proceedings highly prejudicial to objects of legitimate ins., they are therefore extremely anxious to remove such a reproach from the great body of its members, and to prevent the acts of a few individuals tarnishing the general conduct and proceedings of the rest.

Resolved unanimously: That the practice of making illegal insurances is highly disgraceful to the character of this House; greatly injurious to its interests; foreign to the objects of its estab.; subversive of the Law; and ought to be instantly discontinued.

That it be recommended to the members of this House to mark in the most pointed manner their unqualified disapprobation of all future attempts to prejudice its character by the offer of any gambling policy or policies.

1811.—At a gen. meeting of the subscribers to *Lloyd's*, held 29 Mar. this year (William Bell, Esq., in the Chair),—

The meeting having taken into consideration the proceedings of the Committee on the 21st Nov. last, on the subject of illegal insurances, highly approved of the sentiments therein expressed; and

Resolved, That any member of this House offering or underwriting any policy or similar instrument, in which the assured appears to have no real interest, is offending against the rules of the House; shall no longer be considered a subscriber; and shall forfeit his original subscription.

Resolved, That these proceedings be printed for the information of the subscribers; and placed in conspicuous parts of these rooms.

1832.—The case of *Paterson v. Powell* arose in the Common Pleas. Several persons (in 1829) subscribed, each for himself, a certain contract as follows:

In consideration of forty guineas for 100 and according to that rate for every greater or less sums received of ———. We who have herunto subscribed our names do for ourselves and for our several and respective heirs, etc., and not one for the other, or others of us, or for the heirs, etc., of us, assume, engage, and promise that we respectively or our several heirs, etc., shall and will pay or cause to be paid unto the said ——— heirs, etc., the sum and sums of money which we have herunto respectively subscribed without any abatement whatever, in case the *Imperial Brazilian Mining Shares* be done at or above £100 p. share on or before the 31st day of December 1829.

This memorandum was underwritten as follows:

£100 James Powell.	One hundred pounds	29 April 1829.
£100 Henry Hodges.	Ditto	ditto.
£100 A. P. Johnson.	Ditto	ditto.

The verdict, in the first instance, was for the plaintiff; but this was afterwards set aside by the Court on the ground that the pol. did not disclose the name of the party interested, and that the transaction was likewise void under 14 Geo. III. c. 48.

1845.—Various questions having arisen as to what contracts were included under 14 Geo. III. c. 48 (1774), and what were not, the matter was set at rest by the enactment

of 8 & 9 Vict. c. 109, s. 10 of which set forth : that all contracts or agreements whether by parol, or in writing, by way of gaming or wagering, shall be null and void ; and that no suit should be brought or maintained in any Court of Law or Equity for recovering any sum of money or valuable thing alleged to be won upon any wager or which shall have been deposited in the hands of any person to abide the event on which any wager shall have been made : provided always that this enactment shall not be deemed to apply to any subscription or contribution, or agreement to subscribe or contribute for or toward any plate prize or sum of money to be awarded to the winner or winners of any lawful game, sport, pastime, or exercise. It was really aimed at gambling ins. contracts.

1855.—While the stringent enactments already quoted have to a very great degree prevented the practice of Gambling Ins. in British life offices, such ins. are still carried on to a very considerable extent elsewhere. In *Sweden*, for instance, it is said not to be at all unusual “for people to effect, by way of speculation, ins. on the lives of individuals not connected with them.” Here are the short details of a remarkable case entered into this year :

One Svenson, of Carlsrona, ins. the life of an old soldier named Hoffstedt, of the same place, in the *Mentor* [? English] Co. for 8000 rixdollars ; and in the *Paternelle*, of Paris, for 7500 fcs. In August 1856 Hoffstedt died, and Svenson claimed the amount ins. in the two offices. The *Mentor* paid at once ; but the *Paternelle* Co. thought it necessary to institute some inquiry into the cause of death. It turned out that Hoffstedt was a confirmed drunkard, and that Svenson supplied him with money to enable him to drink to excess : the supposed object being to hasten his death. The old soldier at last died very suddenly, and a rumour was spread that Svenson had poisoned him by putting arsenic in his brandy. A *post mortem* was held, and arsenic was found in the body. Svenson was in consequence arrested, and brought to trial before the Criminal Court of the district on the charge of poisoning. The charge could not be estab. ; and he was acquitted. But as he was proved to have had arsenic in his possession—and this as regards a private person is in Sweden illegal—he was fined 16 rixdollars. On an appeal the judgment was confirmed. The public prosecutor then petitioned the King to cause the prisoner to be confined in a fortress, on the ground that there was no moral doubt of his guilt of the greater crime charged. In August, 1857, His Majesty refused this petition, and in course of time the man became released. In the mean time, however, he had become a bankrupt ; and this gave a new turn to the situation. The assignees now instituted proceedings against the *Paternelle* for payment of the claim. The ground on which they based their action was, that the judgment of the Swedish Courts *proved clearly* that no murder had been perpetrated ; and that the Co. could not prove that Hoffstedt committed suicide ; or that he had been poisoned by the man who was to benefit by his death ; either of which events in France would render an ins. invalid. In the end the Civil Tribunal adopted the arguments of the advocates for the Co., and refused the claim ; but the pertinacious manner in which the claim was pressed, and the arguments used, showed that the moral aspect of the case was not regarded as of any weight. The uncertainty of the law, and the consequent chance of a loophole, afforded hope up to the last. The litigation extended over many years.

1857.—About this date a new object for speculative ins. arose in connexion with the laying of the Atlantic Telegraph Cable. It was understood that considerable transactions were entered into at Lloyd's, but we shall here confine ourselves to the facts evolved in the case of *Paterson v. Harris*, before the English Courts in 1860, and on appeal in 1861.

The plaintiff being the owner of one share in the Atlantic Telegraph Co.—a Co. formed for laying down a Telegraphic Cable between Gt. Britain and America—caused himself to be insured by a pol. “from the U.K., wheresoever the risk may commence, to the Atlantic Ocean, and thence by one or more ships to the places of destination in the U.K. and America, including every accident and risk that may be incurred at sea or on land, in all or any boats, ships and crafts whatsoever and wheresoever, until the final and successful laying down of the cable from shore to shore, upon any kinds of goods, etc., or any ship or ships, etc., as above, beginning the adventure on the loading of the said goods.” In the valuation clause, the subject of ins. was to be taken as “on one £1000 share in the Atlantic Telegraph Co., the said share valued at £1100 ; in case of loss, the part saved to be sold or appraised for the benefit of the underwriters.” The perils insured against were “of the seas.” All goods were “warranted free from average under £3 p.c. unless general.” A memorandum was attached to the pol. : “It is understood and agreed that this ins. shall cover and include the successful working of the cable when laid down.” The pol. was in fact an ordinary Lloyd's pol., but was made to apply to the risk now insured, and the last-named memorandum was of especial importance. The deft. underwrote £150 for a prem. of £55 2s. 6d.—or £36 15s. p.c.—and others underwrote different amounts.

The cable was ultimately laid down from the Irish to the American coast—with a loss of 373 miles of it, by the perils of the seas—but it proved unworkable owing to the insulation of the electrical wires being imperfect in the outer covering of the cable, occasioned by an accident prior to loading, aggravated by the chemical action of the sea-water on the

interior of the cable, to which, by the defect in the outer covering, the water was enabled to penetrate.

The plaintiff having brought an action to recover damages for the depreciation in his share, consequent on the failure, and also in respect of the loss of the 373 miles of cable, obtained a verdict, but with certain reservations. On appeal (in 1861) to the Q.B. it was *Held*, first, that the injury to the cable laid down was not caused by "perils of the seas"; secondly, that the ins. was in effect on the plaintiff's interest in the cable itself, and that the plaintiff might therefore recover in respect of the loss of 373 miles; but that the warranty clause applied, and that he could only recover if the proportion of the value of the part lost to that of the whole length when shipped free on board amounted to 3 p.c.

This verdict would prob. give the plaintiff a very small per-centage of the amount he sought to recover, and the judgment was based upon the plaintiff's interest in the value of the materials of which the cable was composed, and in no way met the case of the depreciation in the market value of the share, consequent upon the failure of the enterprise.

At the later periods of the enterprise, as, for instance, when the vessel was out in mid ocean, and there were no tidings, or when the quivering needle in the little cabin on the western Irish shore gave no signal, but those unintelligible ones induced by the earth's electricity, gathered from the deep-sea bottom, there were other transactions at Lloyd's, ranging as high as 60 and 70 guineas p.c.

When we come to write the Hist. of *Lloyd's*, we shall have to review other incidents of a speculative nature. [LLOYD'S.]

1866.—There was enacted the 29 & 30 Vict. c. 42—*An Act to amend the Law relating to Life Ins. in Ireland*—by which the provisions of 14 Geo. III. c. 48, s. 1 (1774), were extended to *Ireland*. It was quite time for this extension of the law against Gambling, or without interest, life pol. to be made: as in practice numerous cases had arisen wherein it was but too clear that the transaction was a simple monetary speculation. As a consequence various British offices had discontinued the acceptance of lives resident in the South of Ireland more particularly. [IRELAND.]

1867.—Mr. Bunyon, in his *Law of Fire Ins.*, pub. this year, says:

Wagering pol. of F. Ins., whether upon the property of the assured or of third parties, are not permitted. They would be illegal, as contrary to public policy, not only as gambling transactions, but as incentives to arson and fraud; nor, viewed in the second light, could it be otherwise than odious to any right-minded person to speculate upon the misfortune of another. This would indeed seem to follow from first principles and without seeking for authority; but the rule which lies at the foundation of all marine ins. here meets us, and appears equally apposite—namely, that the assured in becoming such, seeks not for gain, but strives only to guard against loss. . . . (p. 5.)

But he further thinks that the Stat. Law reaches the question: for the Act of 1774 applied to "other events" in general terms, beyond the contracts specifically prohibited. He adds: "It has never been doubted but that this Act applies to Fire Ins. pol.; and indeed all that is required to bring a contract within its operation is, that it should be an aleatory contract, or one depending upon a contingency; and that it should be framed in the form of a pol." (p. 6.)

An application to the Southwark Police Court in Dec. of this year opened up the view to another class of speculative Life Insurances, of a character not previously dealt with in this Act. We slightly condense the newspaper report:

Soon after the night and other charges had been disposed of, Mr. Downes, surgeon, of White Street, Borough, entered the Court with a very respectable-looking man to ask his worship's advice under the following singular circumstances: Dr. Downes said he had attended the family of the person who accompanied him several years, and about a year ago one of two daughters, aged 12 years, died from disease of the heart and other causes after 12 days' illness. A few weeks ago the father of the child was extremely surprised to find that a married woman, quite unconnected with the family, had insured the child's life in the *Royal Liver F. Benefit Ins. So.* for £20 without his knowledge or any of the family, and that the So. had paid that sum to the female. He (Dr. Downes) was astonished that any So. acting as a life assu. inst. should accept an insurance in such a way, as at the time it was effected the child was so ill that he had not the least hope of her recovery. An application was made to the office in Bridge Street, Blackfriars, where the ins. was taken, and they were referred to the head office in Liverpool. On communicating with the latter, they returned an answer that they knew nothing of the transaction, and referred them back to the office in London. When they again inquired at the latter place, the official remarked that it did not matter whose life they insured, as any one might come and insure the Queen's life with them if they liked. Perceiving that the conduct of the parties was so strange and inexplicable, he considered it better to come to his worship for his advice under the circumstances.

Mr. Partridge: Did the child die suddenly?—Dr. Downes: Oh, no, sir. I attended her for two years up to her death, which took place in Nov. last year. I have also attended the family for years.—Mr. Partridge: What is this woman who has insured the child's life? Dr. Downes: She is the wife of the father's partner, and had been in the habit of taking the child various nourishing things up to the time of her death.—Mr.

Partridge: Might she not have given her something to accelerate her death?—Dr. Downes: Oh, no, sir; I think not. I am persuaded that the child died from natural causes, and am therefore informed that no legal proceedings can be taken against the female. What I require is to know whether anybody can legally insure another person's life without their authority or that of the parents or guardians?—Mr. Partridge: I should hardly think any respectable well-conducted ins. office would do anything without such authority and proper medical inspection. I should recommend you to apply to the coroner of the district, and lay all the facts before him.—Dr. Downes: I don't think any good will result from that, as I consider the child died from natural causes. *This woman appears to be in the habit of insuring persons' lives for her own benefit, as I am given to understand that the chief part of the £20 she applied to insure other persons.*—Mr. Partridge: I cannot do anything for you, but recommend you to apply to the coroner of the district.

It will be remembered that this was an *ex parte* statement, in which some of the details may be wrongly stated. The Friendly Sos. Act of 1875 requires—sec. 28 (8)—that there shall be an insurable interest for sums beyond £10 insured on children between 5 and 10 years of age. There is still room for abuses in this direction. [ESSEX POISONINGS.] [FRIENDLY SOS., LAW AND PRACTICE OF.] [NORFOLK POISONINGS.] (See 1876.)

1875.—During this year some attention was drawn by the press to a species of Life Ins. which is very prevalent in England, and which, to the uninitiated, bears very much the aspect of gambling. In connexion with *Leases for Lives*, where (usually) 3 lives are nominated, and the estate is held until the extinction of the last of these, it is quite customary to select the children of the reigning sovereign, or of prominent members of the nobility, as nominees—for the main reason that the death of any such nominee is certain to be known at the earliest moment; and insurances are effected on the lives so selected, in view of meeting the *fine* payable on renewal of such leases—the ins. becoming payable on the death of the last life. But in all this there is really no gambling, there being a *bond fide* interest at stake on the life of the nominee. See *LEASES FOR LIVES*; and *TONTINES*.

1876.—A writer in the *Review* of 20 Dec. this year drew attention to the facilities which existed for Gambling in connexion with *Marine* Ins., through the increasing practice of *reinsurance*, consequent upon the Act of 1864. The following are the main points:

... The interest which he [the original insured] insures may assume either a tangible shape of ship or cargo, or the not less real though intangible form of freight, profits, or commissions. The conditions attaching to ins. effected on these last two items are open to the grave objection that in case of loss, *the presentation of the pol. by the assured, or the middle man (the broker), is to be held as sufficient proof of interest.* A selling broker, having received instructions, after the departure, and before the arrival in port of a ship, to sell a portion of her cargo when it has arrived at its destination, finds his sale commission dependent on the safe delivery of the cargo, and has, therefore, a real interest in the adventure, which he may legitimately insure. *But if he had received no such instructions, he might effect precisely the same ins.; and should the ship fail to terminate her voyage in safety, the underwriter, with nothing but the pol. to guide him, cannot discover that he has been induced merely to lay a wager, and will have to settle a thoroughly fictitious claim.* Here then is the door open to speculation of a kind which does not enter into the ordinary bus. of the underwriter.

We turn next to the consideration of some of the dangers inherent to the custom of reinsurance. ... When an ins. co., having an open pol. for some considerable amount by ship or ships, find the whole of their interest included in one shipment, they, as a general rule, transfer a portion of their liability by reinsurance; and against such a course no possible objection can be urged. But take the case of underwriters interested in a vessel which is overdue. As day after day passes, and no news of the vessel is received, they grow fidgety and alarmed, and at last determined, at the sacrifice of a large prem., to reinsure,—and for that purpose they employ a broker. *Should the latter entertain a shrewd suspicion that the vessel is no longer afloat, there is nothing to prevent him, in the execution of his commission, from adding to the amount which he has been instructed to reinsure, a sum for which he himself pays the prem., and in respect of which he becomes the assured. And in the case of loss he would recover this sum from the reinsurer, who has unconsciously been forced into the position of being a party to a betting transaction.*

This question will be further considered under title *REINSURANCE (Marine)*.

But the writer proceeds to touch upon another fruitful source of Ins. Gambling, viz. *Honour Pol.* Here there is no real interest at stake. "The underwriter simply lays odds on the safe arrival of the ship. It is true that in one sense this form of pol. is not legally binding—since in law the assured cannot recover on it; but as a matter of fact he will." These pol. will be considered under title *HONOUR POL.* The writer under quotation sums up as follows:

We have briefly pointed out 3 cases in which ins., with or without the cognizance of the underwriter, degenerates into wagering. But as yet we have only arrived at the origin of a far greater evil. If before a foundering or total loss becomes generally known, a broker receives information of it, it would be plainly dishonest of him to attempt to place a risk by [on] a vessel which he well knows to be lost. *But the honour pol. enables him to do so, although he might previously have had no concern whatever in the adventure; and if he has already taken a line by [on] the ship, reins. puts the means within his grasp of freeing himself from an otherwise fatal responsibility.*

It must be remembered that the assured under an honour pol. can only be benefited, can only be secured against loss (*i.e.* of the prem.), by the foundering or total wreck of the ship. Scuttling and wilful stranding are not unprecedented crimes, nor difficult of achievement if the master be but a willing rascal. Must it not then be urged against the so-called "honour pol.," and the existing lax system of reins., that they offer a new opportunity and a new temptation to the unscrupulous to enrich themselves by the imperilling of lives and the destruction of valuable property?

The remedy lies in the hands of the underwriter himself. Let him steadily refuse to accept a

proffered risk unless the broker can prove his authority, and the existence of a substantial interest on the part of the proposed assured: and a wholesome check will then have been given to fraud, and a fatal blow to speculation in the ins. world.

We fear this sound advice has not been very generally accepted. Indeed, the extent to which Gambling is carried on in connexion with Marine Ins. cannot be fully comprehended by those who have not had some practical experience. [DOCTORS' RISKS.]

Towards the close of this year a case came before the Bradford (Yorks) County Court, which disclosed a considerable amount of gambling in lives, through pol. effected in the *National Weekly Life Assu. So. of Manchester*. (See 1867.)

United States.—Mr. Bliss, in his *Law of Life Ins.* (2nd ed. 1874), gives the following summary of the condition of the law as bearing upon Gambling Ins.:

The English Gambling Act has never been regarded as applicable in this country. So far, therefore, as it introduced any change in the common law, it rendered the law of England different from our own. Some of the States have, however, passed laws more or less resembling that of England. New York has a statute which makes wager pol. illegal; but it is less stringent in its terms than the stat. of George [1774]. In New Jersey it has been judicially held that no law exists against wager pol. No State has by stat. adopted that provision of the English stat. which requires that the name of the person interested in the pol. shall be stated in it; nor the other provision that only the amount of insurable interest shown to have been possessed at the time the pol. was issued can be recovered, though some of the earlier American decisions treat the latter as the law. . . . In New York it has been held that it is not necessary that one for whose benefit the life of another is insured should be a creditor of that other. It is enough that in the ordinary course of events, pecuniary loss or disadvantage will naturally or may prob. arise to the party in whose favour the pol. is written, from the death of the person whose life is insured. . . .

The later case of *Guardian Mut. Life v. Hogan*, before the Supreme Court of Illinois, 1876, confirms the preceding. It will be referred to in detail under INSURABLE INT.

The cross references to this subject—many of which have been already mentioned—are

ANNUITIES ON LIVES.	INSURANCE FRAUDS.	PROFITS, INS. OF.
APPRENTICESHIP INS.	INTEREST OR NO INTEREST.	PROOF OF INTEREST.
BARGAINS, INS. OF.	LEASES ON LIVES.	SERVICE INS.
BIRTH INS.	LITTLE GOES.	SPECULATIVE INS.
CHILDBIRTH INS.	LLOYD'S.	STOCKS, INS. OF.
CHRISTENING INS.	LOST OR NOT LOST.	TONTINES.
EXPECTED PROFITS, INS. OF.	LOTTERY INS.	VALUED POL.
HONOUR POL.	MARRIAGE INS.	WAGERS.
INSURABLE INTEREST.	PERSONAL ADVENTURE INS.	

GAMGEE, PROF. JOHN, EDIN.—In the 5th Rep. of the Medical Officer of the Privy Council, pub. 1863, was contained: *Report on the Diseases of Live Stock in Relation to the Public Supplies of Meat and Milk*. [LIVE STOCK INS.]

GAMMAGE, JOHN.—Was the "proposer" and founder, in 1712, of the *Equitable So. for the Benefit of Posterity*, of which we have given a full account under its title.

GANANCIAL (from the Spanish).—A species of community in property enjoyed by husband and wife—the property being divisible between them equally on a dissolution of the marriage.

GANDER, JOSEPH.—Pub. 1703: *Queen Anne's Sovereignty to the Sea Asserted*. [SEA, DOMINION OF THE.]

GANGLION.—A tumor under the skin; in modern anatomy a plexus of the nerves. There are many denominations of these, mostly named after the part affected.

GANGRENE (from the Greek *to eat*).—The first stage of mortification, so called from its eating away the flesh. It ends in mortification. There are specific varieties known to medical practitioners: as the *hot* gangrene (attended by inflammation); the *cold* (without); the *humid*; the *dry*; the *senile*, etc.

In the *Mutual Life* of N.Y. during the 34 years, 1843–76, there had been 4 deaths from this cause. In 3 the foot was the part affected, and in 1 the hand. The ages at death were 41, 44, 45, and 62 years.

GANGWAY.—The opening in a ship's bulwarks, by which persons are intended to enter the vessel.

GARCIE DE FERRANDE, PIERRE.—He compiled the *Grand Routier de la Mer*, first printed in 1542 (*Reddie*), and *Le Grand Routier, Pilotage, et Encrage de Mer*, first printed at Rochelle in 1571. New ed. Rouen, 1584, 1601, 1607, 1622.

GARD, T.—Pub. (without date, but some years since): *The Odds and Chance of Cocking, and other Games, Algebraically and Arithmetically investigated*. [CHANCE, DOCTRINE OF.]

GARDENERS, UNITED ORDER OF.—See FRIENDLY SOS., 1855.

GARDINER, CHEDORLAOMER.—Man. in Yorkshire for *County Fire and Provident Life* since 1866, for which Cos. he has transacted a considerable bus. In 1862 he became District Man. in Yorkshire for the *City Assu. Co.*, for which Co. he afterwards became Gen. Sup. of Agents. On the amal. of that Co. with the *Sovereign* in 1866, he held for a few months an appointment with the last-named office. On the occasion of the amal. he received two handsome testimonials, one from the policy-holders, etc., the other from the District Managers of the *City Life*. He is the author of several canvassing pamphs., viz. *Riches in Poverty*; *Life Ins. Reasonable, Expedient, and Religious*; etc. In 1874 he was elected a member of the Leeds School Board on a vote of 16,656 votes.

GARDNER, EDWARD, M.D.—Pub. in 1800: *Reflections relative to Pop., Provisions, etc.* [FOOD.] [POP.]; and in 1801: *Obs. on the Utility of Inoculating for the Variolæ Vaccina, or Cow-pox.*

GARDNER, JOHN, M.D.—Pub. in 1874: *Longevity: the Means of Prolonging Life after Middle Age.* [LONGEVITY.]

GARDNER, R. ALEX.—Man. in Scotland (Glasgow) for *Norwich Union* Life since 1876. He was trained to the bus. in the *City of Glasgow*, where he was from 1862 to 1866. He next held the position of District Man. in Glasgow for the *Briton*, down to 1870; and was then Man. in Glasgow for *Life Asso. of Scotland*, down to 1876, when he resigned for his present appointment.

GARFORD, GEO.—Was Sec of *City of Lond. Marine* on its estab. in 1876.

GARIBALDI MUT. LIFE ASSU. AND SICK FUND FRIENDLY SO.—This So. was regis. under the Friendly Sos. Act. It issued a prosp. with a woodcut of Garibaldi vindicating liberty; and this was the means of the So. obtaining considerable patronage. At last it turned out that the affair was really an impudent swindle. The Regis. of F. Sos., in his Rep. issued in 1865, speaks of it as follows:

The prosp. states that the So. acts as the agent to the Gov. in granting annuities and endowments, which is not the fact; and gives the names of parties as trustees, directors, etc., most of whom, upon application to them, deny any connexion with the So., whilst others cannot be found. The prosp. also refers to pol. numbered 1118 to 7000, whereas from the last return sent to the Registrar it will be seen that there were not more than 600 members then on their books. In one of the printed documents it is stated that there is a reserved guarantee fund of £25,000. There is no provision for such a fund in the rules; the only fund mentioned in the last statement is £49; and at the same time the So. appears to be indebted more than £60 to the Treasurer, Trustee, and Sec.

It has long since happily passed out of existence.

GARNISHMENT.—In Law, a warning or notice given to a party to appear in Court or give information. The term has a very limited use. Garnishment, or warning, is given to a third person, termed the *Garnishee*, in whose hands money is attached within the liberties of the City of London by process out of the Mayor's Court. [ATTACHMENT.] Ins. Asso. sometimes find themselves in an embarrassing position by reason of these Garnishee notices. Thus a creditor may create a forcible lien upon the Ins. claim of his debtor, from which the Ins. Office can only escape by due process of law.

The proceeding commences by an entry of action, followed by a notice of attachment to the debtor—the *Garnishee* (i.e. the ins. office). He may either not appear, or appear and not plead, or appear and plead. In the first two alternatives judgment will be given by default, or for want of a plea; in the third, when a verdict is found for the plt., the debt will be attached in the hands of the Garnishee. Mr. Bunyon (*Law of Fire Ins.*) says:

... The most advisable course for a Garnishee who does not wish to resist the claim of the plt., and does not deny the debt, is to plead, and force the plt. to proceed to execution against him: as otherwise he may not be discharged from his debt to the deft., the assured. This proceeding is exceedingly vexatious as regards the office: since costs are never given as between the plt. and Garnishee—in this instance differing from an attachment under the Common Law Procedure Act; and if after attachment no further steps are taken, the attachment continues in force for ever. It is, however, to be noted, that although a bill of discovery may be filed to discover particulars of the debt, the costs of which bill must be wholly paid by the plt., debts due in Equity only, or which can only be enforced in a Court of Equity; or trust property; cannot be attached. Hence, unless the pol. is one on which the debtor, the deft. in the action, is the assured, and has a right of action at law, the attachment is void. Where the Garnishee, as in the case of a country office, is out of the jurisdiction, the attachment cannot be enforced: for the debt must have accrued within the City [of London]; and it has been lately decided that when the jurisdiction is defective, instead of pleading, the Garnishee may obtain a prohibition from one of the Superior Courts against the Lord Mayor's Court; and upon conflicting claims upon successive attachments, a decision may be obtained by a bill filed in the Court of Chancery. . . .

It is seen that the subject is one surrounded with technicalities, which even the learning of Mr. Bunyon cannot entirely unravel. The City of London has peculiar customs regarding attachments. But a debt may now be attached under the Common Law Procedure Act (17 & 18 Vict. c. 125, s. 63). Should the Garnishee have notice of any counter-claim, such as a subsequent adjudication of bankruptcy against the insured, they cannot safely pay under the Garnishee order, but should apply to a judge in chambers to stay it.

In *Scotland* a similar process of attachment is designated ARRESTMENT.

In the *United States* a number of cases have arisen on questions arising under Garnishment.

In *West v. Franklin Fire Ins. Co.*, 1844, it was *held*, that a claim, though unadjusted, was subject to the law of foreign attachment. (2 Pa. Law J. [70].)

In *McAllister v. Commonwealth Ins. Co.*, 1859, it was *held*, that if a foreign ins. co. has complied with the law of the State in regard to foreign ins. cos., and have an agent in such State, they are liable to Garnishment, by process served on the agent; the latter being held to be a "chief or managing officer of such corp." within the meaning of the 26th sec. of the executive law in Missouri. (28 Mo. 214.)

It is a general principle that a Garnishee is not liable for interest while he is restrained from the payment of his debt by the legal operation of a foreign attachment.—Flanders, *Law of Fire Ins.*, 1871, p. 568.

GARRAWAY'S COFFEE HOUSE (CHANGE ALLEY).—This was a noted resort for persons

engaged in Ins. speculations during the reign of Queen Anne, and generally during the South Sea period. The place has been rendered famous by the following lines by Swift, in *The South Sea Project, 1721* :

There is a gulf where thousands fell ;
Here all the bold adventurers came ;
A narrow sound, though deep as hell—
Change Alley is the dreadful name.

Meantime, secure on Garway cliffs,
A savage race by shipwrecks fed,
Lie waiting for the founder'd skiffs,
And strip the bodies of the dead.

See MARINE INS. about this date.

GARRETT, THOMAS.—Sec. in Liverpool for *Staffordshire* Fire since 1878. He previously represented the *Standard* Fire there.

GARTERS.—The vast number of ulcerated legs treated in the out-patient departments of hospitals, in workhouse infirmaries, and in private practice, arise from varicose veins. Now, a varicose ulcer is caused by a distended condition of the veins of the leg, which have to sustain the pressure of the blood caused by gravitation. The most frequent and flagrant cause of obstruction is the elastic garter. Children should never wear them at all, as the stockings can be perfectly well kept up by attachment of elastic straps to the waistband. If garters are worn, it is important to know how to apply them with the least risk of harm ; at the bend of the knee the superficial veins of the leg unite, and go deeply into the under part of the thigh, beneath the ham-string tendons. Thus a ligature below the knee obstructs all the superficial veins ; but if the constriction is above, the ham-string tendons keep the pressure off the veins which return the blood from the legs. Unfortunately, most people, in ignorance of the above facts, apply the garter below the knee.—*The Sanitary Record.*

GARVALD COW CLUB AND FUNERAL SO.—Founded at Garvald (Haddington), N.B., in 18—, for the mut. ins. of the cows of the members ; and also providing funeral allowance on the death of the members themselves. The So. does not appear to be enrolled under the Friendly Sos. Acts.

In 1872 the So. had 214 cows ins., on which the members had paid during the 7 years ending 1871 about 10s. p.a. to secure £10 on death of a cow.

The operations of the So. were orig. confined to the neighbourhood of Garvald ; but this is no longer so ; indeed we are told : “It is difficult to state the extent of the district included in the action of the Garvald Club, as the class who constitute the greater proportion of the members are very migratory in their habits, and continue their connexion with the Club though they remove to other counties and even to England.”—*Vide Rep. of Mr. Culley, Assistant Commissioner under F. Sos. Commission, 1870, p. 13.*

GAS (from the German signifying *spirit*).—A term now applied to all permanently elastic fluids, or airs differing from atmospheric air.

GAS (COAL), AS AFFECTING INS. RISKS.—The use of Coal-Gas for the purpose of illuminating houses and buildings has had a very direct bearing upon Fire Ins., and also some upon Life and Health Ins.—for there can be no doubt that its effect upon health, in the absence of proper ventilation, is particularly injurious. Then there is its explosive risk, as affecting life and limb, and the destruction of property.—See **BALLOONING ; COLLIERIES, EXPLOSIONS IN ; COLLIERIES, INS. OF ; EXPLOSIONS ; MINERS (Coal) ; MINES.** But we propose to speak of Coal-Gas here more particularly in relation to its influence upon fire risks.

The application of the gases produced from the destructive distillation of pit coal to the purposes of illumination is of modern invention ; but the germ of it may be traced back for more than a century.

1727.—Dr. Stephen Hales, in his *Vegetable Staticks*, first pub. this year, noticed the properties of gas from coal.

1739.—The first authentic record of the permanent elastic and inflammable gas from coal dates from this year. In the *Phil. Trans.* there is a paper by the Rev. Dr. Clayton, describing the method of filling bladders with what he calls the *spirit of coal*, obtained by distilling coal in a retort upon an open fire.

1771.—Dr. Richard Watson, D.D., in his *Chemical Essays*, enlarged upon the properties of coal-gas, from a scientific point of view.

1792.—The idea of applying gas to economical purposes seems first to have occurred to Mr. William Murdoch, of Redruth (Cornwall), this year ; and he commenced its manufacture with this view.

1798.—Mr. Murdoch fitted up the large factory of Messrs. Boulton and Watt, at Soho, near Birmingham, with the appliances for illumination with gas ; and it was so illuminated.

1803.—The Lyceum Theatre (Lond.) lit with gas, as an experiment, by Mr. Winsor.

1805.—Used at the Cotton Mills of Messrs. Phillips and Lee, Manchester—1000 burners lighted.

1807.—Introduced into London for lighting the streets ; but was many years before it became general.

1808.—There appeared in the *Phil. Trans. : An Account of the Application of Gas from Coal to Economical Purposes.*

1812.—The first “Chartered” Gas Co. formed in Lond., with Mr. David Pollock (grandfather of the present Baron) for its Chairman.

1819.—Gas-lighting first introduced into the streets of *Paris*. In 1865 there were 10 Gas Cos. in that City.

In practice it has been found that 1 ton of coal will yield from 8000 to 10,000 cubic feet of purified gas, of average illuminating power, leaving a residue of about 15 bushels of coke, and producing about 9 gal. of tar.

1853.—In the Lighting and Watching Act of this year, 3 & 4 Wm. IV. c. 90, provision is made (secs. 50 and 51) for remedy in case of contamination of water by means of gas escaping from the mains.

1850.—Mr. Samuel Brown, in his paper on the *Fires of Lond.* (1 *Assu. Mag.* p. 37*), spoke of the increased use of Gas, as bearing upon the question before him. Thus, "The increased consumption of gas is very rapid, especially within the last two years; and it is evident from the result, that if danger may be apprehended from the employment of this valuable medium of producing light, the danger cannot be perceived to have much increased with the more extensive use made of it." In proof of which he furnished this T.:

TABLE V.—*Showing the Increased Consumption of Gas in the several periods.*

	Proportion p.c. of Fires in which Gas was found to be used on Premises.	Of 100 Buildings in which Gas was consumed, Proportion p.c. in each period.
1833-7	32'15	18'88
1838-42	40'78	23'95
1843-7	44'73	26'26
1848-9	52'65	30'91
Total Average, 1833-49	41'97	100'

1856.—Mr. Braidwood, in his paper on Fires, read before the So. of Arts, said:

Every one is acquainted with the danger of stove pipes; but all are perhaps not aware that pipes for conveying away the heat and effluvia from gas burners are also very dangerous when placed near timber. It is not an uncommon practice to convey such pipes between the ceiling and the flooring of the floor above. This is highly dangerous. Gas burners are also dangerous when placed near a ceiling. A remarkable instance of this took place lately, where a gas burner set fire to a ceiling 28½ inches from it.

Speaking generally he said:

Gas, if carefully laid on and properly used, is safer than any other light, so far as actually setting fire to anything goes; but the greater heat given out so dries up any combustibles within its reach, that it prepares them for burning; and when a fire does take place, the destruction is much more rapid than in a building lighted by other means.

He added this remarkable statistical fact: "In 1833, of the number of premises which took fire, barely 21 p.c. used gas; while in 1855, gas was used in upwards of 67 p.c. of the buildings which took fire."

1859.—There was enacted the 22 & 23 Vict. c. 66—*An Act for Regulating Measures used in Sale of Gas.*

1860.—The Act of last Session was amended. It transpired that there were upwards of 2000 miles of gas-pipes in the public streets of London [see 1877], and that a leakage of 9 p.c. of the gas passing through was occasioned by the faulty joints. Much of this escaped gas finds its way into the water pipes [see 1833] and the sewers, and thus affects the comfort, and prob. the health of the pop. [see 1862]. The length of pipes has since much increased, and is still constantly increasing.

Out of the great fire in Wood Street, Cheapside, 27 Feb. this year, which led to a loss of some £150,000, the question of the liability of the Gas Co. for the carelessness of its workmen was tried. But no carelessness was estab., and the action failed.—See FIRES, GREAT, this date.

1862.—At the Social Science Congress, held this year in Lond., Dr. Aldis contributed a paper: *On Gas—its Effects upon Health, and the Results of Recent Gas Legislation*; wherein the author stated that it had been then lately estimated that there were 19 works belonging to 13 Cos. within 4 miles of Charing Cross; that 850,000 tons of coal were carbonized annually, and about 8 million thousands of cubic ft. of gas manufactured. Of this more than 1 million thousand ft. were lost by leakage from the mains; the rest was sold for about £1,600,000. He showed the great danger of this leakage to health and life—coal-gas being a deadly poison, as well as explosive. He gave the details of various experiments by which he proved gas destructive to animal life, and also those of several accidental deaths resulting from its inhalation. Gas mingled with the atmosphere in the proportion of $\frac{1}{3}$ to $\frac{1}{12}$ is explosive. When mixed with atmospheric air in equal proportions, it would destroy a rat in $2\frac{1}{2}$ minutes; $\frac{1}{4}$ gas and $\frac{3}{4}$ air in 11 min.; and $\frac{1}{10}$ of gas caused death in 41 min. He urged the necessity for care among the workmen employed in making of gas, and in the various trades connected with its supply; and offered some practical suggestions for their use. He also urged the necessity for ventilation in rooms where gas is used—a precaution much neglected in London.—See OCCUPATIONS (*Gasmen*), 1876.

1865.—Capt. Shaw, in his *Records of the late London Fire Engine Estab.* (pub. 1870),

extending over the 33 years 1833-65, gives for each year of the period (see his Table, No. 107), the numbers of houses and buildings on fire in which gas was used, and in which it was not used : here is the result :

Here then we have a total of 29,069 fires ; and in 4 out of every 7 cases over the entire period gas was in use. But this is not all. In the early period, the buildings with gas were in the large minority. In 1849 the numbers with and without gas were about even ; but in the later years, especially since 1854, the buildings with gas have been nearly as 2 to 1 as against those without it. We see how the fires have increased in numbers in these later years.

The number of fires directly attributed to gas during these 33 years in Lond. was 2225, or about $7\frac{1}{2}$ p.c. of all the ascertained causes of fires.

1866.—Mr. Young, in his *Fires, Fire Engines*, etc., places in juxtaposition the advantages and evils of gas, and gives some useful hints which may be remembered with advantage :

As respects safety, the claims of gas to public confidence are indisputable. No sparks can by any possibility be diffused by gas-light. The odour so peculiar to coal-gas is often urged as an objection to its use. Its presence in an unburnt state is thereby infallibly indicated, and thus far warning is given that something is wrong ; a stronger ground of objection would exist if it were entirely deprived of that odour. When gas escapes, open the door and window of the apartment, search for the leak immediately, *but not with a lighted candle*—and the escape may be easily detected and as easily rectified.

It is a condition accidental, not necessary to the use of gas, that it occasionally escapes when it is not required. In that respect it resembles water, beer, wine, and other liquids, for whose conveyance and management pipes and stop-cocks are requisite. It is perfectly easy to use gas in every apartment of a house without its occasioning the least inconvenience. Let there be ordinary care—just as much as is required in performing the commonest household duties—and nothing more will be necessary. (p. 5.)

1868.—By the Lond. Gas Act of this year ordinary coal-gas was to be charged for at the rate of 3s. 9d. p. 1000 ft. on and after 1st Jan. 1870.

1870.—In the *Times* this year there was a very able art. on the destructive influence of fire from a national point of view, wherein occurred the following passage :

... This 19th century dreads a worse enemy than any lunatic or drunkard for its treasures of art. In our days we have a new emanation of fire, and his name may be spelt in three letters G A S. This is the despot who, while he warms and lights and guards our streets and houses, while he is as good as, or better than, a policeman in the night season, while he lights up the senate and the theatre, and illumines alike the darkest cellar and the deepest mine, *is all the while slowly but surely drying us up and reducing us to tinder that we may one day, it may be soon or it may be late, fall a prey to his master, fire, and be wrapped in wreaths of flame !*

This is a new and prob. not much overdrawn view of the effects resulting from the constant use of gas in dwellings and other buildings.

1871.—The Gas Works Clauses Act was passed. This is important, as bearing upon the public health. In 1872 the receipts of the London Gas Cos. reached £2,133,000 ; and in 1873 £2,544,000.

1875.—In March this year a family in Bernburg (Germany), which occupied the basement of a house, into which gas had not been introduced, were poisoned by gas during the night, in their bedrooms. Two of the members of the family were found in the morning dead in their beds. A judicial investigation was made of the facts, and it was ascertained that a break had occurred in the gas-pipe which passed along the street, and that the gas which escaped, as it could not rise to the surface, the ground being frozen hard, had found its way through the earth, into the house in question. A strong smell of gas had been perceived in this and the adjoining house for several days, and the people in the adjoining house had taken warning and changed their sleeping rooms. In this way they avoided the danger. (See 1878.)

1876.—The general introduction of the "Stockwell Self-lighting Gas Burner," an American invention, is destined very much to lessen the risk of fire resulting from the use of gas. No matches or lighted paper are necessary. The act of turning on the gas itself effects the ignition, by means of a simple and inexpensive appendage applied to the top of each burner. We hope to see the invention applied to burners in this country soon.

Year.	Gas.	No Gas.	Year.	Gas.	No Gas.
1833	96	362	1851	513	415
1834	130	352	1852	542	381
1835	172	299	1853	530	370
1836	195	369	1854	660	293
1837	203	298	1855	658	324
1838	228	340	1856	651	306
1839	250	334	1857	765	350
1840	236	445	1858	758	356
1841	300	396	1859	707	382
1842	331	438	1860	710	346
1843	311	438	1861	796	387
1844	322	440	1862	876	427
1845	307	400	1863	914	490
1846	388	446	1864	964	523
1847	411	425	1865	984	518
1848	447	358			
1849	418	420	Total	16,227	12,842
1850	454	414			

1877.—The latest statistics regarding the lighting of the Metropolis are these: The streets of London have an aggregate of 2500 miles, requiring about 5000 miles of gas mains, and upwards of 54,000 lamps, which consume something like 1,000,000,000 cubic feet of gas per year, or about 3,000,000 per diem. The gas supply of the entire Metropolis is about 14,000,000,000 cubic feet per year, or 38,500,000 cubic feet per day, requiring for its production the coking of 1,500,000 tons of Newcastle coal. The cost of the coal is said to be £1,750,000, and the value of the residual products, such as coke, breeze, tar, and ammoniacal liquor, as much as £600,000. The gas rental of the city is £3,000,000, of which £250,000 is for street lamps.—*Capital and Labour.*

1878.—Experiments in Electric Lighting are now being made in London and in Paris, and many difficulties in this direction have been removed. [LIME LIGHT.]

The real danger from gas arises more particularly in the folly of those who have to do with it. For instance, an escape is indicated by the nasal organs: instead of allowing these same organs to lead right up to its origin, the person employed usually calls into requisition a light. An explosion occurs, and the foolish person not only gets injured—the proper penalty of ignorance—but the house is set on fire. Hardly one day in the year passes without the aid of the Lond. Fire Brigade being called into requisition by some such cause!—*Ins. Agent.* [GAS EXPLOSIONS.] [PETROLEUM.]

In the *Chantrelle* case in Edinburgh this year, the wilful breaking of a gas pipe, and consequent escape of gas, was the means selected for the accomplishment of the murder. [INS. FRAUDS (*Accident Ins.*), this date.]

United States.—The ordinary fire pol. contain a *gas clause* to the following effect. “The generating or evaporating within the building or contiguous thereto of any illuminating gas or vapour is prohibited under this pol., unless permitted by writing thereon.” Some pol. have these words: “The generating or evaporating within the building or contiguous thereto, of any substance for a burning gas, or the use of gasoline for lighting, is prohibited, unless by special agreement indorsed on this pol.” (See 1877.)

GAS EXPLOSIONS.—Apart from the fires occasioned by the agency of Gas, or through carelessness in its use, there is another class of risk associated with it, and this is the risk of *Explosion*—happily of very rare occurrence, but yet an ever-present danger of very considerable magnitude.

In most modern fire pol. the liability of the co. for the consequences of Gas Explosions is either admitted, or not excepted, and where an explosion occurs through the negligence of the gas co., or its servants, the insurers are liable, although the primary liability rests with the gas co. If the insured enforces his claim first against the ins. co., it (the ins. co.) will be entitled to stand in his place, and recover (in the name of the insured) compensation from the gas co. This was estab. in *Commercial Union v. Lister*, which will be hereafter mentioned more in detail. (See 1874.)

Glass ins. pol. now usually cover breakages from explosions from gas and otherwise—those from gas being most general.

1864.—In *Mose v. Hastings, etc.*, Gas Co., it was held, that a gas co. is bound to keep up such a reasonable inspection of the mains and pipes as may enable them to detect when there is such an escape of gas, by fracture or imperfection of pipes, as may lead to danger of an explosion; and if an explosion takes place from a fracture or defect which has existed for several days, during which time it has also been discoverable (by reason of the smell of the escaped gas), and would have been discovered by proper inspection—that is evidence of negligence on the part of the co.; nor is it enough to relieve them from liability that upon the notice of an escape they sent a workman to repair the defect, he arriving too late to do so. (4 F. & F. 324.)

1865.—On 31st Oct. this year the large gas holder at the London Gas Light Co. works at Nine Elms exploded. There were 10 persons killed. This was the first accident of the kind in the metropolis.

1872.—In *Burrows v. March Gas Co.*, the facts shortly stated were these. The defts. contracted to supply the plaintiff with a proper service pipe to convey gas from the main outside to a metre inside his premises. Gas escaped from the pipe laid down under the contract into the plaintiff's shop. The servant of a gas fitter employed by the plaintiff happened to be at work in another room at the time of the escape, and went into the shop upon hearing of it, with a view of finding out its cause. He was carrying a lighted candle in his hand, and immediately on entering the shop an explosion took place, doing damage to the plaintiff's stock and premises. On the trial of an action against the defendants for their breach of contract in not supplying a proper service pipe, the jury found, 1st, that the escape of gas was occasioned by a defect in the pipe, and that that defect existed in the pipe when supplied; and 2ndly, that there was negligence on the part of the gas fitter's servant in carrying a lighted candle. Upon these findings, *Held* (affirming the judgment of the Court below), that the plaintiff was entitled to recover; and that the defendants were not relieved from liability by the negligent act of the gas fitter's servant. (7 L. R. Ex. 96.)

1874.—In the *Commercial Union Assu. Co. v. Lister*, before the Courts of Equity this year, the facts were as follow. The defts., Messrs. Lister & Co., were mill-owners at Halifax. In Dec. 1873 an explosion of gas occurred at one of their mills, setting the

building on fire, and causing great destruction of property as well as some loss of life. Messrs. Lister were insured to the extent of £36,950 by eleven fire offices. Being advised that the Corporation of Halifax, who supplied the gas, were responsible for the consequences of the explosion, Messrs. Lister & Co. commenced an action against them. Upon hearing of this action, the fire offices gave notice to the Corporation that they claimed to be interested in any damages recoverable by Messrs. Lister & Co., and filed the present bill, in which it was suggested that it was Messrs. Lister & Co.'s intention to make some arrangement respecting the liability of the Corporation which would be prejudicial to the fire offices. The object of this suit was to restrain Messrs. Lister & Co. from prosecuting the action otherwise than for the whole amount of the damage, and to obtain the conduct of the action for the ins. cos., and to have it declared that the plts. were entitled to the benefit of the action to the extent of the sums which they might have to pay to the defts. The liability of the cos. had been assessed at £30,000, and this sum had been paid. Messrs. Lister's action against the Corporation was for £57,000, the total amount of the damage by the fire, and £6000 for damage by loss of trade during the rebuilding of the mill. A motion for an injunction was made before the Master of the Rolls. His Honour, on the undertaking of the defendants to sue the Corporation for the whole loss by the fire, and not take into consideration, in any compromise they might make, their own liability as ratepayers of Halifax, made no order on the motion, except that the costs should be costs in the cause. The plaintiffs appealed:—*Held* (affirming the order of the Master of the Rolls), that the owner undertaking to sue for the whole amount of damage would be allowed to conduct the action without the interference of the insurers; but would be subject to liability for anything done by him in violation of any equitable duty towards the insurers. (9 L.R. Chanc. 483.)

1875.—On the subject of Gas Explosions Mr. W. Eassie wrote to the *Times* (21 Oct.) as follows:

The only complete method of testing the gas service after it has been laid down between joists, or spiked up against walls, is the American system. Every burner, save one, is plugged up, and to that is attached a tube in connexion with an air pump and gauge. If, after working the pump, the gauge shows no sign of sinking, the pipes may be taken as perfect; but if the mercury falls, there is certainly a leak or leaks, and their whereabouts is discoverable by pouring a little ether into the tube and recommencing pumping. I tested a house in London last week in this manner, and found out some very serious faults in the piping. I think all our gas fitters should be taught to make use of such a contrivance; but what can be expected, when any one can be a gas fitter, and for the matter of that, a glazier, brazier, plumber, and bell-hanger as well? In some parts of America the gas companies will not lay on the gas until their officer has inspected the "gauge."

1877.—On 24 July the principal gas holder at the Devonport Gas Works suddenly exploded: A vast body of flame mounted into the air, and the utmost excitement was created in the town. Fortunately the other holders were unfilled at the time, or great destruction must have ensued; as it turned out, no one was injured. It was thought that the accident was occasioned by reason of some blasting operations which had during the day taken place near by, causing a piece of rock to penetrate the holder: and that the escaping gas had reached the retorts, and had so become ignited.

France.—A separate prem. is usually charged by the fire offices to cover risks of damage from gas explosions. The minimum rate is 5 cents. p. 1000 fr. on buildings and 15 on furniture. Some of the mut. offices include this in their general risk.

The law as to the remedy of the ins. offices against the gas co. seems to be the same as with us, as is seen in the following case:

An explosion of gas took place in Paris, in the basement of the Louvre, in Dec. 1871, through which a quantity of merchandize stored there, belonging to Messrs. Clauchart, Hériot & Co., was destroyed by fire. The Paris Gas Co. had the same day had men in the cellar cleaning up a gas pipe. On investigation it was found that the explosion had been in part caused by their negligence. The different Fire Ins. Cos. with whom the firm above named had effected ins., paid the damages they had sustained, which were adjusted at 419,870'16 francs. The Cos. were, *La France, La Nationale, La Générale, Le Phénix, L'Urbaine, La Confiance, La Providence, La Mutuelle Immobilière, La Paternelle, La Centrale, and Le Midi*. The Louvre itself was also seriously injured. After having made good the loss to the firm, the ins. cos. claimed to be subrogated to their rights against the gas co. They began suits in the Tribunal Civil de la Seine, to recover the several amounts which they had paid respectively. The result of the facts offered in evidence was that proper diligence was not used by the gas co., in view of the great danger attending their operations. The Tribunal held that in work of this character, diligence of the very highest degree must be used: that before commencing operations, it was the duty of the gas co. and of its men to ascertain the precise condition of all the stop-cocks in the cellar. This the gas inspector omitted to do, although the keeper of the Louvre tried to induce him to do so. The keeper of the Louvre went down himself into the cellar with a workman for the purpose, but the gas inspector would not even wait for them to come back. He began to work with his men before they had made their report. On the other hand, it was proved that the officers of the Louvre had introduced changes into the arrangement of the basement, without notifying the police authorities. The part of the cellar where the principal stop-cock was, was not shut off by a door from the room in which the merchandize was stored. Even a partition, which

had previously stood there, was taken away. No notice of this change was given to the gas inspector, although it increased very materially the danger of making repairs in the gas pipes, and he could not, therefore, take any precautions with reference to it. In the opinion of the Court, the liability of the Gas Co. was very materially lessened by this consideration. The measure of damages adopted by the Court against the Gas Co. was to hold them liable for three-fourths of the loss occasioned by the fire, including the injury done to the building as well as to the merchandize. *The Gas Co. was, therefore, adjudged to pay the eleven Ins. Cos. three-quarters of the amounts paid by them to the insured, together with interest at the rate of 5 p.c. from the day of payment, and also the damage done the building, to the same extent.* It was also adjudged to pay the expenses of adjusting the amount of loss sustained and the costs of suits.—*Determined 1874.*

GAS FITTINGS AND GAS PIPES.—In ins. upon private houses these, when the property of the tenant, as is usually the case, are understood to be included in the ins. “upon household furniture and personal property”; but if the household effects are specified, and insured in separate items, as is often the case, these must be separately mentioned in order to be covered. Gas pipes and fittings in warehouses, shops, and other buildings, when not specifically insured, are understood to be included in the item of fixtures and fittings up, where such exists. In large mills and manufacturing premises, these are often insured in a separate item, with steam pipes, etc.

Mr. Griswold lays down the practice in the U.S. regarding these as follows :

828. Annexations for ornament, or domestic comfort or convenience, as *gas fixtures, gas fittings, chandeliers*—capable of being removed without injury to the house, or leaving it in a worse condition than before such annexation—may be removed by the tenant before the expiration of his lease, and may be insured by him as fixtures.

829. *Gas fixtures, water pipes in the wall, gas and water pipes laid in the ground, are “fixtures” in law, and go with the realty.* These cannot be removed by the tenant, though put in by himself, except by the consent of the owner of the freehold; and without such consent the tenant has no interest in them after they are put in place.

The use of wrought-iron pipes or tubes for conveying gas throughout a building is much to be preferred to that of the soft metal so generally employed. The melting of these soft pipes, and the consequent escape of gas, or rather ignition of it, by means of which the fire is increased and extended, is the cause of great mischief. It was proposed to remedy this by having a means of turning off the gas *outside* the premises. Some steps in this direction have been taken in various wholesale warehouses in London.

GAS HOLDER—A hollow cylindrical vessel open at bottom and closed at top, especially contrived for containing coal gas, as manufactured, until required to be distributed for consumption. Some of these are of enormous size, capable of holding a million cubic feet and upwards. Several of these are frequently found in close approximation, and too generally in densely populated districts. That great danger to life and property may, and sometimes does, arise, is but too patent. [GAS EXPLOSIONS.]

GAS MACHINES.—These are not so much for the manufacture of illuminating gas as for increasing its intensity of flame, by passing the ordinary gas through naphtha, benzine, or similar articles. In the U.S. appliances of this character are in very general use; and the conditions of fire ins. exempt the co. from losses arising from their use, unless permission has been given, and the extra prem. paid. They are there known as “Patent Gas Machines,” but are sometimes designated “Carburetters.” [GASOLINE.]

GAS PROPRIETORS MUTUAL FIRE ASSU. AND GEN. GUARANTEE FUND.—A Co. under this title was projected in 1849; but there was not sufficient pressure to carry it forward.

GAS STOVES.—Stoves adapted to the consumption of coal-gas, for the purposes of heating halls, rooms, and warehouses. Not only are they very injurious to health, unless under skilled management, but they greatly intensify the fire hazard.

1856.—Mr. Braidwood said, “Gas stoves also, from the great heat given out, sometimes cause serious accidents. In one instance a gas stove set fire to a beam through a 2½ inch York-landing well bedded in mortar, although the lights were 5 or 6 inches above the stone. *This is mentioned to show that gas stoves require quite as much care as common fires.*—So. of Arts Journal, vol. iv. p. 415.

1876.—Mr. Sydney Jewsbury, in his paper on *Heating Apparatus*, read before the Ins. Inst. (Manchester) this year, offered the following sagacious remarks on gas stoves :

These are modern contrivances to supplant pipe-stoves in buildings, where the pipe of an ordinary stove would be inconvenient. They have at least 3 points for recommendation from an ins. point of view. *First*, they give no more heat than the same gas burned *without* the stove. *Secondly*, when they are put out there is nothing left to smoulder. *Thirdly*, they poison the atmosphere of the room, and flavour it with ammonia and sulphurous acid to such an extent that often the workpeople will not light the stove.

The warehouse tariff allows these without extra charge.

The application of gas to ordinary fireplaces, to be used with asbestos, instead of coals, is perhaps less open to danger, but not less injurious to health, except that the chimney affords a flue to carry off the bad vapour.

GAS WORKS.—These are regarded as fire risks of especial hazard; and, under a system of scientific rating, they would be held to impart a portion of their hazard—viz. that relating to explosion—to all adjacent property. Happily, the accidents happening from this cause have been few and far between.

The health of the workmen engaged at gas works, will be specially considered under OCCUPATIONS. [GAS.]

GASOLINE—A product which may be designated concentrated gas, one pint of which, such as is sometimes used in the patent gas machines, will produce 208 cubic feet of explosive gas. The gas is condensed by cold; but it not unfrequently explodes by negligent lighting of the burners. The New York Board of Fire Underwriters recommended in 1873 that gas machines in which this fluid was used should be excluded from insured buildings. As a consequence many policies contain such a condition as the following:

The generating or evaporation, within the building, or contiguous thereto, of any substance for a burning gas, or the use of *gasoline* for lighting, is prohibited, unless by special agreement, indorsed on this pol.

In the case of *Arkell v. Commerce Ins. Co.*, before the American Courts in 1877, on a pol. containing the preceding condition, it was *held*, that Gasoline works 50 feet distant, for lighting the building, were *not* contiguous within the meaning of the pol.

GASTRO OR **GASTRO**.—The stomach.

GASTRIC FEVER.—A term first applied by Baillon to common fever when attended by unusual gastric derangement. It is the *meningo-gastric* fever of Pinel. [ENTERIC FEVER.] [FEVERS.]

GASTRIC JUICE.—The peculiar fluid secreted by the stomach, and essential to the process of *digestion*. When collected from the stomach of an animal killed while fasting, it is transparent and saline, but during digestion it is distinctly acid. One of the most characteristic properties of the gastric juice is its solvent power over the varieties of animal fibre, or albumen, and the facility with which it coagulates milk, and then dissolves the coagulum. It has been supposed that inordinate smoking affects the gastric juice, and so promotes indigestion. [DIGESTION.] [PEPSINE.] [SMOKING.] [TOBACCO.]

GASTRITIS.—Inflammation of the stomach: the result of the intro. of poison into that region: or of the excessive use of alcoholic stimulants. It is attended by great irritability of the stomach, indicated by hiccup, vomiting, and much pain and general uneasiness; the pulse is small and hard, and there is fever attended by prostration of strength. It is a very dangerous disease, and requires prompt treatment. The constant sickness frequently prevents the application of any of the ordinary remedies. [DELIRIUM TREMENS.] [INTEMPERANCE.] [STOMACH COMPLAINTS.]

GASTRITIS, DEATHS FROM (Class, LOCAL; Order, Disease of *Digestive Organs*).—The deaths from this cause in England are not numerous, and show but little fluctuation. In ten consecutive years they were as follows: 1858, 789; 1859, 827; 1860, 704; 1861, 809; 1862, 765; 1863, 838; 1864, 883; 1865, 802; 1866, 765; 1867, 742. Over a period of 15 years ending 1864 they averaged 40 p. million of the pop. living. [ALCOHOLISM.]

The deaths in 1867 were: males, 311; females, 431. They are numerous in the younger ages, decreasing to age 20; and then increasing to 70. After that reducing rapidly.

Turning to the records of insured life, the *Scottish Widows Fund* in the first 37 years of its existence, terminating 1852, had 13 cases of gastritis and enteritis; of these 2 occurred between ages 20 and 30; 2 between 30 and 40; 4 between 40 and 50; 3 between 50 and 60; 2 between 60 and 70. In the next 7 years (1853-9) 9 further deaths had occurred in this class—3 between 30 and 40; 1 between 40 and 50; 3 between 50 and 60; 1 between 60 and 70; and 1 between 70 and 80.

In the *North British*, in 37 years (1823-60), there were but three deaths from gastritis. The average period after ins. was 10 years 11 months; the average exp. 26'50; the per-centage on total mort. '23.

In the *Scottish Amicable*, during the 34 years ending 1860, there were but 12 deaths returned as from gastritis and enteritis combined; and no remarks are offered on these.

GASTRODYNIA (from the Greek *pain*).—A painful affection of the stomach, often attendant upon dyspepsia.

GASTRO-ENTERITIS.—Inflammation of the gastro-intestinal mucus membrane. *Gastro-enteritis mucosa* is English cholera. [CHOLERA, ASIATIC.] [STOMACH COMPLAINTS.]

GASTRONOMY.—The so-called science of eating and drinking. [FOOD.]

GASTRO-PERIODYNIA.—Periodical pain of the stomach; a peculiar disease known in India by the name of *sool*. So painful are the paroxysms of this disease, that it is (superstitiously) supposed to be produced by the deadly weapon in the hands of Siva, the destroying power of the *triad*; and so incurable that even Siva himself cannot remove it.—*Hoblyn*.

GATESHEAD.—Great fire at.—See FIRES, GREAT, 1854. [EXPLOSIONS, sub-heading *Chemical Products*.]

GAUGES, STEAM AND WATER.—The appliances affixed to steam-boilers for ascertaining the force of steam, and the level of the water. The first consists of a siphon tube containing mercury in the case of low-pressure engines, and of a spiral spring attached to a wheel indicator in the case of high-pressure engines. The last (water gauge) consists of a vertical glass tube, or flat case communicating, above and below, with the boiler. Gauge cocks are sometimes put instead of, or in add. to, the tubes, for the purpose of enabling the engineer to verify the water-level. Various important scientific improvements have been made in gauges in recent years. See STEAM BOILERS, INS. OF.

GAULOISE (LA) INS. CO.—This Co. was founded in Paris in 1869 (but regis. in England), with an authorized cap. of £240,000, in shares of £20. The chief and indeed only bus. of the Co. was transacted in France; but the promoters were desirous of having the benefit of the English law; and hence the Co. had an English constitution. M. Eugene Cuchote was the founder and first Managing Director. It afterwards passed into various hands, and was finally ordered to be wound up in 1873. The prospects of the enterprise were at one period very good, and it deserved a better fate. The Civil Tribunal of Havre ordered the Co. to change its name, on the ground of its too great similarity to an already existing Co. It was then attempted to reconstitute the Co. under the title of *Gallia*; but that also fell through.

GAVELKIND.—An old English custom or tenure annexed to all lands in the county of Kent not specially exempted: by which the land of the father is equally divided at his death among his sons; or the land of the brother among all his brethren, if he have no issue of his own. Tenure in gavelkind is considered by Blackstone to have been in the nature of free socage. In most places the gavelkind tenant had the power of devising by will before the Stat. of Wills. The same custom seems to have been prevalent in Wales, where all gavelkind lands were made descendible to the heir at common law by stat. 34 & 35 Hen. VIII. c. 36 (1543). In Kent the lands have been in particular cases disgavelled, or deprived of their customary descendible quality, by stat.; but all land in Kent is *primâ facie* gavelkind. The actuary, in valuing reversions, etc., requires to keep these facts in remembrance.

GAVIN, HECTOR, M.D.—Pub. in 1843 a work: *On Feigned and Factitious Diseases, chiefly of Soldiers and Seamen; on the Means used to Simulate or Produce them, and on the Best Modes of Discovering Impostors.*

In 1847 he delivered a lecture on the *Unhealthiness of London, and Necessity of Remedial Measures*. This lecture was in the interest of the "Health of Towns, and of London Associations." Dr. Gavin was at this date Lecturer on Forensic Medicine at Charing Cross Hospital.

GEARY, JOHN.—Founder, and afterwards Managing Director, of *Maritime Passengers* Ins. Co. (1851). Has been the promoter and amalgamator of many ins. cos., in which capacity, however, he has acted chiefly as the "lion's provider" for a greater promoter and amalgamator than himself. He was one of the regis. promoters of the *London and Liverpool Marine* in 1859; and of the *British Marine* in 1860. The *Post Mag. Almanack* of 1861 speaks of him as "a wholesale projector." With some later ins. enterprises he has simply been associated as director. He is a man of kindly heart and ready wit.

GEBER, HERMAN.—This gentleman has left his mark upon the Life Ins. bus. of the present generation. We condense the following from the *Deutsche Versicherungs Zeitung* of June, 1867: Mr. Herman Geber belongs to the English school, having been for many years an official of the *Gresham*. His intelligence and zeal induced the directors to remove him in 1858 to Paris, where for some time he took a share in the management of the French, Italian, and German bus. As is the case with all Germans, Mr. Geber experienced a longing for his own country; he negotiated with the *Germania*, and undertook, if we are not mistaken, in the earlier part of 1861, the general agency for the provinces of East and West Prussia and Posen, with his domicile in Dantzic. Mr. Geber understood how in a short time to make the bus. of his district profitable. The directors called him to Berlin, and by a resolution of the board of directors of June, 1861, raised the Berlin general agency, which was at that time managed by Mr. Herman Henkel (now managing director of the Prussian Hypothek Bank), to a branch estab., and conferred the management on Messrs. Geber and Henkel in their capacities as sub-directors. Other undertakings occasioned the retirement of Mr. Henkel, and Mr. Geber was installed as sole manager of the branch estab. Mr. Geber, with rare tact, knew how to find out the proper men for life assu. bus.; for amongst the great number of representatives of the Co. competent agents are to be found, and his well-schooled officials took care that the working machinery progressed with regularity. The sub-director at this place, whose district not only included many provinces of Prussia, but also part of foreign countries, was on the 1st Jan. 1867, elected director.

Speaking of the bus. results during Mr. Geber's activity, we will subjoin a statement of the yearly results of the ordinary life assu. branch. The amount of the sums assured under "whole term of life," "endowment assurance," and "burial money" tables of the *Germania*, was as follows, viz.:

Year Ending.	No. of Proposals.	Amount Assured.	
1859	8,024	3,733,602	Thalers.
1860	9,946	4,936,008	"
1861	12,696	7,088,898	"
1862	20,808	11,696,108	"
1863	33,952	18,754,642	"
1864	51,050	27,352,549	"
1865	73,201	37,342,428	"
1866	82,114	40,859,782	"
April, 1867	90,266	43,121,473	"

On the 1st July Mr. Geber retired from his position with the Co., for the purpose, it was stated, of enjoying the pleasures of private life. He was then but 34 years of age.

GEE, JOSHUA.—Pub. in Lond. 1729: *The Trade and Navigation of Gt. Britain Considered*. The work is quoted by some writers on Marine Ins.; but we have not found anything in it justifying a more detailed notice. It passed through several editions. We have quoted from it under **BOTTOMRY**.

GELATIO (from *gelo*, to freeze).—A freezing or frost-bite. A term denoting every degree of chill from the chilblain to positive freezing to death of a part of the body; and specially applied to gangrene of the feet, caused by exposure to cold.

GENERAL ACCIDENT AND COMPENSATION INS. SO. "For insuring against all kinds of Accidents by Sea and Land, with Compensation for Personal Injury arising from Non-fatal Accidents; also for insuring Plate Glass."—Founded in 1855, with an authorized cap. of £100,000. The prosp. said:

It has only been within the last 4 or 5 years that the progress of statistical science has enabled a few of those admirable inst., the Life Ins. Sos., to develop modes of Ins. which affect the welfare of Insurers during their lifetime; and these have been looked upon as entirely secondary in their importance, and used rather as an extra inducement to intending insurers, than made of any practical efficiency for their relief. Only a few Sos. have as yet been estab. which have entered upon a system of bus. to remedy this defect, some confining themselves to a special class of accidents, others extending their operations to a much wider range; and these have been the means of rescuing many a family from poverty and its attendant miseries. Still however, it must be observed, that the benefit derivable in the event of the death of the insured is the great and prominent feature by which these Cos. are characterized.

After more of the same sort, we arrive at a detailed enumeration of the classes of bus. undertaken, viz.—

1. Accident Ins. in its various ordinary forms.
2. Insurance of Mariners for specific voyages or generally.
3. To grant Annuities (immediate or deferred) "on terms *much more liberal to the unhealthy than to the healthy*; and such annu. to be largely increased in case of total disability arising from accidents."
4. Ins. of Plate Glass.
5. Ins. against complete disability or total loss of health from any cause.
6. The issue of *Family Pol.* for Accident Ins. [FAMILY INS.]
7. The Co. gave parti. in profits to its *Accident* as well as its Life pol.-holders.

The Co. was worked in connexion with the *United Homœopathic* [afterwards *English Provident*].

In 1859 the Accident portion of the bus. (which was small) was trans. to the *British Nation*; and from that Co. to the *Accidental Death Ins. Co.* (No. 2).

The Consulting Act. of the Co. was Mr. Thos. Walker; the Sec. Mr. Wm. J. Taylor.

GENERAL ACCIDENT AND GUARANTEE CO. LIM.—This Co. was founded in 1868, with an authorized cap. of £250,000, in 50,000 shares of £5. First issue 10,000; of which 5000 shares were to be fully paid up, and the other 5000 are to have £1 paid. Some of the features of the Co. have already been noted in our hist. of **ACCIDENT INS.** One of these was the placing of Architects, Building Surveyors, and Civil Engineers in the first class, whereas all other Cos. placed them in the second. The next was the giving of "all ins. who have passed each five years, without making a claim on the Co., a reduc. in the following 5 years in their prems. The per-centage to be fixed at the periodic valuations." Policy-holders in the Guarantee branch were also entitled to parti. in profits. And any person already ins. in one branch, on effecting an ins. in the other, was entitled to a reduction of 10 p.c. in prem.

This Co. claimed to have originated the system of giving parti. to holders of Accident pol. This however is not the fact, as may be seen by reference to Gen. Accident and Compensation Co. (1855).

The promoters of the Co. were understood to be Dr. Lavies and Mr. A. Scratchley; the Man. Mr. Charles Harding. The bus. was very small. In 1870 the Co. merged into the *City Accident Co.*, in view of effecting its amalg. with the *Accident Ins. Co.* (No. 2). The Fidelity portion of the bus. was trans. to the *General Guarantee Ins. Co. Lim.*

GENERAL AGENT.—In *Commerce*, a person who is authorized by his principal to execute all deeds, sign all contracts, or purchase all goods required in a particular trade, bus. or employment. In *Ins.* a general agent usually means (in the U.K.) a person who is authorized to canvass for, or accept bus. in any part of the country, and is in contradistinction to a mere ordinary or local agent. In *Law*, the term is used in a still different sense.

Mr. Bliss, in his *Law of Life Ins.*, etc. (2nd ed. N.Y. 1874), offers the following instructive remarks hereon:

There is a distinction in law between what are known as general agents, and those known as special agents. "A special agency (says Story) properly exists where there is a delegation of authority to do a single act; a general agency properly exists where there is a delegation to do all acts connected with a particular trade, bus., or employment." Under this definition the agents of ins. cos. who are scattered over the country would seem to be general agents, *not* general agents to do all acts connected with ins.; *but to do all acts connected with procuring applications for ins.*

In *Marbey v. Mutual Benefit Ins. Co.*, the Supreme Court of Massachusetts defined the powers of agents as follows:

The authority of an agent must be determined by the nature of his business, and the apparent scope of his employment therein. It cannot be narrowed by private or undisclosed instructions, *unless there is something in the nature of the business or the circumstances of the case to indicate that the agent is acting under special instructions or limited powers.* On the other hand, it does not follow from the fact that a man is shown to be agent for another, or for a corporation, that his principal is bound by all that he does. There are limitations which grow out of the very law of agency. In the first place the act must appear to be an act of agency: that is, done in behalf of the principal. In the case of corporations created for a special purpose, or engaged in a special bus., *the authority of the agent will be presumed to be limited by the nature of that purpose or bus.* So, too, the authority of every agent will be presumed to be limited by the apparent scope of the particular employment or branch of the general bus. of his principal in and for which he is engaged; *and all who deal with him in that relation are affected by such apparent limit of employment and powers.* In this case the authority of Jordan must be taken to be limited to the bus. of ins., and within that bus. by whatever of restriction the fact that his principal is a mut. ins. co. may properly impose. The authority of Wells may be still further restricted by the known fact that he was only a sub-agent, employed to receive applications for ins., and forward them to the co., and to deliver policies issued by the co., and collect prems. thereon. It is not within the apparent scope of the employment of such an agent to make contracts or declarations to bind the co. generally; and therefore we think the defts. may show the actual extent and limit of his authority. (103 Mass. 78.)

See, also, AGENTS, DUTIES AND RESPONSIBILITIES OF; SPECIAL AGENTS.

GENERAL ANNUITANT SO.—Founded in Bristol in 1805, for the purpose of granting annu. to its members on reaching an advanced age. It became regis. under the Friendly Sos. Acts.

In June, 1869, there being but 7 members, 5 of whom were annuitants; and the funds in hand being £4714, the So. was dissolved by the members, subject to the award of the Regis. of F. Sos. regarding the distribution of funds. After providing for existing annu., the funds were divided among the members, and produced £4 6s. 2d. for each £1 paid in by them.

GENERAL ANNUITY ENDOWMENT ASSO.—Founded in 1829, and commenced bus. on the 1 Oct. in that year. Its object was to provide annu. for widows, orphans, and other relatives. Its constitution was mutual, and it was enrolled under the Friendly Sos. Act 10 Geo. IV. c. 56. All the prems. received during the first 5 years were to be paid into the Bank of England to the account of the Commissioners for the Reduction of the National Debt, and to accumulate at compound int. so as to form a permanent fund; after this the int. on this fund, together with one-twentieth part of the year's prems., was to be divided amongst the claimants to the extent of £50 for each annuity. The surplus and the $\frac{1}{20}$ ths to be added to the permanent fund. The next year the int. of the fund and $\frac{1}{20}$ ths of the ann. prems. to be divided; and so on year by year the divisible fund to be increased by $\frac{1}{20}$ th until 25 years from the commencement of the Asso., when the whole of the int. and prems. were to be equally distributed amongst the annuitants. All remaining portions of annual fund after payment of full annuities to be carried to permanent fund.

The full annuity provided was £50. The ann. subs. was regulated by a graduated scale, commencing at £1 10s. under 25 years, and increasing 10s. for every 5 years up to 60. All members must have contributed 5 years to the fund before their nominees became entitled to the annuities. Should a member die previously, and the nominee be unable to keep up the payments, the Asso. would pay the arrears, and deduct the amount with 5 p.c. int. from annuity, when payable. Members were entitled to a second nomination in the event of the death of the first nominee. Ladies might become members and nominate their children and relatives. An annu. ceased to be payable to a widow on her remarrying; but on becoming a widow again the annuity would be payable as before. So the annuities to female nominees ceased on marriage; but became payable again during widowhood. Male nominees (except fathers) ceased to be annuitants after age 21. We presume the exception related to the fathers of the subscribers.

In case of idiots and cripples being nominated, they were considered as annuitants for life upon payment of double the prems. paid for female nominees of same age.

Members were formed into 8 classes, and on joining the So. paid prems. and entrance fee per following scale, for each annuity; the limit of annuities being 6; and not more than 3 on any one nominee:

1st class	under 25 years.	Entrance 10s.	Ann. sub. £1 10s.
2nd "	25 and under 30 "	" 10s.	" 2 0s.
3rd "	30 " 35 "	" 10s.	" 2 10s.
4th "	35 " 40 "	" 10s.	" 3 0s.
5th "	40 " 45 "	" 10s.	" 3 10s.
6th "	45 " 50 "	" 10s.	" 4 0s.
7th "	50 " 55 "	" 10s.	" 4 10s.
8th "	55 " 60 "	" 10s.	" 5 0s.

In add. to which should a member nominate a female one or more years, or a male 36 years or more younger than himself, he must pay a sum for disparity of age according to a table annexed. This disparity table is too voluminous to quote; but the sums required to be paid were frequently very heavy; but they were permitted to be paid by quarterly instalments.

There was a separate fund for officers of the Army and Navy on full pay, and persons whose lives were exposed to more than ordinary risk.

We have quoted this scheme at some length; chiefly because at the time of its formation the plan was submitted to Mr. William Morgan and Mr. Arthur Morgan, of the *Equitable*; and also to Mr. J. Tidd Pratt; and they all approved "of the equity and safety of the principle" upon which it was founded.

The Asso. was based upon the plan of the *Royal Naval Annuitant So.*, but a proportionably higher scale of prem. was charged. Mr. Geo. Walter was its founder.

1833.—There was pub. : *An Account of the Successful Operation of this Asso.*

1860.—Things were not looking very rosy, and it was proposed that there should be an investigation. As a counter-proposition it was resolved that *Life Ins.* bus. be commenced.

1861.—A Committee of Members of the So. was appointed to consider the position of the affairs of the Asso.; and greater economy of management was recommended. The office appears from this date to have adopted the title of the *General Annu. and Life Assu. Office*.

1863.—The quinquennial investigation into the affairs of the Asso. was this year reported upon by Mr. Jenkin Jones and Dr. W. Farr. It transpired that the earlier members had paid inadequate prem., and as a consequence their nominees had received a larger amount of annuity than would have been their due under a properly adjusted scheme. More equitable rates had now been introduced; and care taken to invest the funds at the highest possible rate of interest compatible with safety. The rate realised during the past quinquennium had averaged $4\frac{1}{4}$ p.c. The total funds had reached £315,000; the annu. payable were in the whole £21,000 p.a. The annuity was fixed at £14 until next investigation.

The total number of members had decreased from 1719 to 1657; the number of annuitants had increased from 840 to 906. These latter facts are gathered from a circular pub. by Sir R. M. Bromley later this year. He thought it would be desirable either to take the Asso. from under the Friendly Sos. Acts, and place it upon an independent constitution; or better, to amalg. it with some sound Ins. office.

The number of Life pol. issued since the commencement of that branch in 1860 was 151, insuring £22,693, and yielding in ann. prem. £2061.

1866.—A Committee of Members was appointed to investigate and report upon the affairs of the Asso., the existence of which was practically from that moment doomed. A report was issued.

Finally this year the bus. of the Asso., i.e. its assets and liabilities, were trans. to the *Sovereign*; and this was apparently a very beneficial arrangement for all parties concerned.

Mr. Thomas Whitmore was Sec. of the Asso. for some years down to 1852; and Mr. Philip Curtis was Sec. from 1853 to the end of its career.

GENERAL ANNUITY AND LIFE ASSU. OFFICE.—Founded upon the bus. of the *General Annuity and Endowment Fund* (estab. 1829)—[see preceding history]—and trans. to the *Sovereign* Life in 1866.

GENERAL APPEARANCE.—In the forms provided for the medical examiners of life offices, there is frequently a general question regarding the "general appearance" of the life proposed—a by no means unimportant consideration. And before medical selection was instituted [MEDICAL SELECTION], when all persons insured were required to appear before the board, "general appearance" was everything—for the directors had no other guide.

1861.—Dr. A. P. Stewart, in his *Obs. on the Characteristics of Assurable and Non-Assurable Lives*, pub. by way of appendix to Mr. Black's treatise this year, gives the following excellent obs. hereon :

Speaking generally, and with reference to what may be gathered by a rapid glance, his looks should correspond with the age stated; his limbs and body should be plump, but firm and muscular—free from palpable traces of injury or deformity, his figure should be erect, well-formed and well-proportioned, his gait steady and easy, his step elastic, his eye bright, his complexion clear and fresh—neither pale nor highly florid, above all neither sallow nor subject to deep and sudden flushings.

To come to particulars: the head, which must not be prematurely bald or grey, may be conspicuously large, but if it surmounts a neck of considerable length, a pair of broad shoulders, and a capacious and well-arched chest; if, in short, whatever be its size, it does not strike the eye as out of proportion to the neck and chest; if headaches, giddiness, and weight in the head are unknown; if tobacco-smoking is seldom practised, or not at all; if the passions and animal nature are thoroughly under control: if the mind is calm and evenly balanced; if the working hours are spent in a judicious alternation of work and recreation, of mental and physical exertion without undue fatigue; and if the sleep taken be moderate in quantity, and in quality sound and refreshing; the prob. of any disease of the mind, brain, or spinal cord, seem reduced to a minimum. . . .

Some continuing remarks by this writer will fall to be quoted under GOOD HEALTH.

1869.—Dr. Adams Allen, in his *Medical Selection* (5th ed. pub. this year), under title of "general appearance," says :

The proportionate height and weight, with the more or less symmetrical development of the body, as a whole, make up a part of the general appearance; but beyond this, the attention of the examiner is to be directed to various details which go to make up the *tout ensemble*. Among these we may specify: *Aspect of the Countenance* [COUNTENANCE, ASPECT OF]; *Complexion* [COMPLEXION]; *Colour of Hair and Eyes* [TEMPERAMENT]; *Size of the Bones* [HUMAN BODY, PROPORTIONS OF]; *Contour of Muscles*; *Gait*; *Apparent Age*; *Temperament* [TEMPERAMENT].

On this last point he remarks as follows :

In taking note of the general appearance any idiosyncrasy present deserves careful attention, and its possible bearing upon the life prospects of the party must be noted. Idiosyncracies vary so remarkably in their character that it is unnecessary to do more than simply direct notice to the fact that they are capable of largely modifying particular indications, and indeed the ultimate judgment.

GENERAL ASSURANCE DIRECTORY, LONDON AND PROVINCIAL.—A publication under this title first appeared in London about 1846. It was pub. by Messrs. Simpkin & Marshall, and contained a great deal of useful information regarding Ins. Asso. It continued in existence for some eight years or more. Mr. Geo. Hill was Editor.

GENERAL (OR GROSS) AVERAGE.—*Definition.*—Whatever the master of a ship in distress, with the advice of his officers and sailors, deliberately resolves to do, for the preservation of the whole, in cutting away masts or cables, or in throwing goods overboard to lighten his vessel, which is what is meant by *Jettison* or *Jetson*, is, in all places, permitted to be brought into a general or gross average, in which all concerned, in ship, freight, and cargo, are to bear an equal or proportionable part of what was so sacrificed for the common good, and it must be made good by the insurers in such proportions as they have underwrote. However, to make this action legal, the following points are essentially necessary, viz. 1st, that what was so condemned to destruction was in consequence of a deliberate and voluntary consultation held between the master and men; 2ndly, that the ship was in distress and the sacrificing the things they did was a necessary procedure to save the rest; and 3rdly, that the saving of the ship and cargo was actually owing to the means used with that sole view.—*Weskett*, 1781.

A more recent and precise definition is this: When, in the course of a voyage, casualties place a vessel, and the property in her, in a situation which a judicious crew consider one of extreme danger, they naturally attempt to rescue the ship and the property in her from that danger; and with this object they frequently sacrifice a portion of that property, or of the vessel's tackle, etc.; or they have recourse to extraneous assistance, or other means; and the adoption of such measures causes often a pecuniary loss. The loss so occasioned is, in many cases, made good to the party sustaining it, by a *pro rata* contribution from all the owners of the ship, and of the property in her: such *pro rata* contribution being usually according to the pecuniary benefit which each of them respectively has derived from the act which caused the loss. This contribution is called a *General Average*, and, as its name implies, results from a danger which is general; that is, mutual or common to both the ship and the property in her, and in which therefore both have a common interest. "Common Interest" is thus a fundamental principle of general average.—*Lawrence R. Bailly*, 1856.

General Average is a term of art; it must be explained by custom.—*Baron Wilde*, in *Müller v. Titherington*, 1861.

The essential difference between General and Particular Average is this: *General Average* is claimable without reference to amount, whilst *Particular Average* is only recoverable from underwriters when it exceeds the warranted minimum limit. Even when all the expenses consist of repairs, but arise partly from natural accidents, and partly from voluntary sacrifices of the ship's stores or fabric, and where all fall finally together on the ship because she is without cargo or freight—even in this extreme case, the two classes of claim are to be distinguished and afterwards kept apart; and the particular average, if it fall short of 3 p.c., is not to be eked out by the add. of it to the general average, though the latter claim consisted also of repairs to the ship.—*Hopkins* (3rd ed.), 1869.

Principles and Practice.—On a subject so extended as General Average, upon which many vols. have been written, and regarding points on which there are literally hundreds of cases in the law-books, it is not to be expected that we can furnish more than an outline or synopsis of the *principles and practice*, together with the actual or proposed modifications in these. Under title AVERAGE we have already dealt in considerable detail with the historical aspect of the subject, as also with the usages of foreign nations, and the literature of averages.

1. The doctrine of average was (probably) introduced, or at all events moulded into its present shape, by the Rhodians.

2. Average and contribution with commercial writers are synonymous terms.

3. If the *Jettison* do not save the ship, but she perish in the storm, there shall be no contribution of such goods as may happen to be saved.

4. But if the ship, being once preserved by such means, be afterwards lost, the property saved from the second accident shall contribute to the loss occasioned by the former jettison.

5. To an action of trespass for throwing goods overboard, a man pleaded that he did it *navis levendæ causâ*; and that otherwise the passengers must have perished. The plea was held good.

6. The various accidents and charges which will or will not entitle the suffering party to call for a contribution may be enumerated, as follows:

a. The expense of repairing a ship injured by successfully beating off a privateer, of curing the sailors' wounds, and of ammunition, is *not* the subject of general average.

- b.* Nor an injury sustained by carrying a press of sail to avoid a privateer.
- c.* Nor money paid for ransom.
- d.* Nor masts and tackle lost, and not cut or cast away.
- e.* If goods be put in a lighter, to enable the ship to sail into a harbour, and the lighter perish, the owners of the ship and the remaining cargo *are* to contribute.
- f.* But if the ship be lost and the lighter saved, the owners of the goods preserved *are not* to contribute.
- g.* If a ship slips or cuts her cable, in order to sail with convoy, this is *not* the subject of a general average.
- h.* A cargo of timber laden on deck, pursuant to custom, *is* entitled to contribution from the shipowner in case of a loss by jettison.
- i.* Goods lashed on deck, if sanctioned by usage, *are* entitled to contribution in a general average; and it has been held that there is no principle of English law estab. that the *mere stowage* of goods on *deck* relieves the underwriters from responsibility, as they may be stowed there according to usage, and so as not to impede the navigation or increase the risk. [DECK LOADS.]
- j.* Boats ought to be lashed on deck, but if lashed to the quarters, they *are* entitled to contribution.
- k.* It would seem that the cases of a master running his vessel ashore to avoid being taken, or to avoid going on the rocks, *are* cases of a general average.
- l.* If a ship be taken and carried into port, and the crew remain to take care of and reclaim her, the charges of reclaiming, and the wages and expenses of the ship's company during her arrest, and from the time of her capture, *it is said*, shall be brought into a general average.
- m.* *Not* so for sailors' wages and provisions during the performance of a quarantine. But *quære*, whether extraordinary wages and victuals during a detention by a foreign prince, not at war, be a subject of average.
- n.* It seems that wages, etc., during a detention to repair, *are*.
- o.* Where a ship is obliged to go into port for the benefit of the whole concern, the charges of loading and unloading, and the wages and provisions of the workmen hired for the repairs, *are not* a general average.
- p.* But where a ship is run foul of, and obliged to cut away rigging, etc., the repairs (as far as absolutely necessary to the safety of the whole concern) *are* a general average; but *not* the captain's expenses, or crimpage.
- 7. The subjects bound to contribute to general average *are*—
 - a.* The ship, freight, and cargo.
 - b.* Not only the value of the goods thrown overboard must be considered in a general average, but also such as receive any damage by wet, etc., from the jettison of the rest.
 - c.* Diamonds and jewels when a part of the cargo must contribute according to their value.
 - d.* Ship provisions, the persons of the passengers, wearing apparel, and such jewels as merely belong to the person, do not contribute.
 - e.* Nor do bottomry or respondentia bonds in England.
 - f.* Nor the wages of the sailors.
- 8. In order to fix a right sum on which the average may be computed, it is to be estimated what the whole ship, freight, and cargo would have produced net, if no jettison had been made; and then the ship, freight, and cargo are to bear an equal and proportionate part of the loss.
- 9. Freight contributes according to its full amount—a deduction of seamen's wages and other expenses being first made.
- 10. Freight must contribute to a loss occurring on an outward voyage, where the ship is chartered out and home, and freight payable according to the quantity of the homeward cargo.
- 11. Goods thrown overboard are to be estimated at the price for which the goods saved were sold—freight and all other charges being first deducted.
- 12. The contribution, in general, is not made until the ship's arrival at the port of discharge.
- 13. The insurer, by his contract, engages to indemnify the insured against all losses arising from a general average.
- 14. The adjustment is to be made according to the law of the place at which the average is adjusted.
- 15. Contribution may be enforced either by an action at law, or in a Court of Equity.
- 16. If a vessel be disabled by perils of the sea from carrying her cargo to its place of destination, the master may sell part of the cargo to enable him to repair the ship, if he cannot raise money on bottomry; and the money so obtained will become the subject of a general average.
- 17. The insurer of goods to a foreign country is not liable to indemnify the insured (a subject of that country) who is obliged by a decree of the Court there to pay contribution, as for general average, which by the law of England is not general average.

18. There is a general principle of law as to what constitutes a general average, and what is merely a charge upon the shipowners, and must be borne by them.

Beyond and within these broad outlines of principles and practice (which are drawn in great part from Park on *Marine Ins.*, 8th ed.), there are innumerable variations and modifications resulting from the varying customs of trades and of foreign nations; as also from varying forms of contracts; which give rise to apparently conflicting decisions, and to almost endless complications.

The following is a well-known but very excellent example of an ordinary gen. average statement:

<i>Amount of Losses.</i>	£	<i>Value of Articles to Contribute.</i>	£
Goods of A cast overboard	500	Goods of A cast overboard.....	500
Damage to the goods of C by the jettison	200	Sound value of the goods of B, deducting freight and charges	1,000
Freight of the goods cast overboard	100	Goods of C	500
Price of a new cable, anchor, and mast	£300	„ of D	2,000
Deduct $\frac{1}{2}$ „new for old”	100—200	„ of E	5,000
Expense of bringing the ship off the sands	50	Value of the ship.....	2,000
Pilotage and port dues going into the harbour and out, and commission to agent who made the disbursements	100	Clear freight, deducting wages, victuals, etc.	800
Expenses there.....	25		
Adjusting this average	4		
Postage	1		
Total of losses	£1180	Total of contributory values	£11,800

Upon this statement each person will lose 10 p.c. upon the value of his interest in cargo, ship, and freight—thus A loses £50; B, £100; C, £50; D, £200; E, £500; and the owners £280—in all £1180. As to the owners' loss of £280, they stand thus: they are to receive £380 to make good their disbursements, and £100 more for the freight of the goods thrown overboard—or £480, minus £280.

They therefore are actually to receive	£200
A is to contribute £50, but he has lost £500, therefore he is to receive	450
B is to contribute £100, but he has lost £200, therefore B is to receive	100

Total to be actually received	£750
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On the other hand C, D, and E, have lost nothing, and are to pay as before	C	£ 50
	D	200
	E	500

Total to be actually paid	£750
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Which is exactly equal to the total to be actually received, and must be paid by and to each person in rateable proportion.

The principal matters in which most foreign adjustments differ from our own are that some items of expense which in England would be classed specially to the ship, or cargo, or freight, are brought into general contribution; but especially that the wages and provisions of the crew, whilst in a port of distress, are made general average; and that in making the several interests contribute, the full value of the cargo is assumed; half the amount of the freight; and only half the value of the ship—that value being most frequently estimated on her reduced worth in a damaged and unrepaired state.—*Hopkins on Average*, 1868.

Current Developments and Suggested Improvements.—These fall next to be considered.

1860.—In or about this year there originated (in Liverpool we believe) a movement the object of which was *the estab. of a Uniform International Code of General Average Law*: its aim being to assimilate the practice of adjusting general averages throughout the world.

The grievance it intended to remedy was this: When a ship and cargo are bound to a foreign port, and meet with some accident which gives rise to general average contribution, the original parties to the adventure are obliged to settle their proportions of the average *as it is adjusted at the port of destination*: that is to say, the contract is made subject to any and all the varying conditions of adjustment which exist throughout the world. The English underwriters very naturally contend that when ship, goods, or freight are ins. in England, the liability should be determined by English law, and not according to the laws and regulations of another country, “of which the underwriter may be ignorant, and the risk he undertakes, consequently, be uncertain by reason of his ignorance;” in a

word that the policy should be governed and made available by the *jus loci contractus*: and not by the *jus loci* where the cargo has to be delivered up. Against this view there was of course pleaded the custom of centuries; in view of which it has always been considered that the merchant, the underwriter, the average stater, the Judge of the Court in which such questions are tried—should all be familiar with the maritime laws and customs of the world.

The General Average Congress—which held its meetings under the wings of the Social Science Congress, at Glasgow in 1860, Lond. 1862, Edin. 1863, and York, 1864—and which was attended by delegates from Belgium, France, Holland, Hanse Towns, Russia, and the U.S.—sought a solution of the above difficulty, in conforming the average regulations of all countries to one standard. Or failing this desirable end, a special clause should be inserted in the pol. where settlements on a foreign basis were agreed to, in order (no doubt) that a proper prem. should be paid for the add. risk.

The Congress did not succeed in procuring a General Average Law; still some good came out of the discussion, in the very circumstance of stimulating a number of minds to reflect upon the subject. We shall notice in more detail as we proceed the steps taken by this body. (See 1864.)

1861.—At the Congress of the Social Science Asso. held at Dublin, this year, Mr. Lawrence R. Baily (of Liverpool) read a paper: *On the Principles which govern General Average*. This was really a very elaborate exposition of the subject, prepared avowedly in view of expected legis. upon the question.

At the same Congress Mr. Richard Lowndes read a paper with the curt title: *Intermediate Expenses*. One para. of the paper fully explains its object:

In this country [Gt. Brit.], and in no other, a distinction is made between the expenses of entering the port and landing the cargo, on the one hand; and on the other, those of reloading the cargo and quitting the port in order to continue the voyage. The former are treated as general average; the latter are not. In the opinion of the Glasgow Conference all alike ought to be treated as general average.

1864.—The Third International General Congress was held at York, and the following rules were framed. They are known as the "International General Average Rules," and are of so practical a character that we give them entire:

1. *Jettison of Deck Cargo*.—A jettison of timber or deals or any other description of wood cargo, carried on the deck of a ship in pursuance of a general custom of the trade in which the ship is then engaged, shall be made good as general average in like manner as if such cargo had been jettisoned from below deck. No jettison of deck cargo, other than timber or deals or other wood cargo, so carried as aforesaid, shall be made good as gen. average. Every structure not built in with the frame of the vessel shall be considered to be part of the deck of the vessel.

2. *Damage by Jettison*.—Damage done to goods or merchandize by water which unavoidably goes down a ship's hatches opened, or other opening made, for the purpose of making a jettison, shall be made good as gen. average, in case the loss by jettison is so made good. Damage done by breakage or chafing, or otherwise from derangement of stowage consequent upon a jettison, shall be made good as gen. average.

3. *Extinguishing Fire on Ship Board*.—Damage done to a ship and cargo, by water or otherwise, in extinguishing a fire on board a ship, shall be gen. average.

4. *Cutting away Wreck*.—Loss or damage caused by cutting away the wreck or remains of spars, or of other things which have previously been carried away by sea peril, shall not be made good as gen. average.

5. *Voluntary Stranding*.—When a ship is intentionally run ashore, because she is sinking or driving on shore or rocks, no damage caused to the ship, the cargo, and the freight, or any or either of them, by such intentional running on shore, shall be made good as gen. average.

6. *Carrying a Press of Sail*.—Damage occasioned to a ship or cargo by carrying a press of sail shall not be made good as gen. average.

7. *Port of Refuge Expenses*.—When a ship shall have entered a port of refuge under such circumstances that the expenses of entering the port are admissible as gen. average, and when she shall have sailed thence with her orig. cargo, or a part of it, the corresponding expenses of leaving such port shall likewise be so admitted as gen. average; and whenever the cost of discharging a cargo at such port is admissible as gen. average, the cost of reloading and stowing such cargo on board the said ship, together with all storage charges on such cargo, shall likewise be so admitted. Except that any portion of the cargo left at such port of refuge, on account of its being unfit to carry forward, or on account of the unfitness or inability of the ship to carry it, shall not be called on to contribute to such gen. average.

8. *Wages and Maintenance of Crew in Port of Refuge*.—When a ship shall have entered a port of refuge under the circumstances defined in sec. 7, the wages and cost of maintenance of the master and mariners from the time of entering such port until the ship shall have been made ready to proceed upon her voyage, shall be made good as general average, except that any portion of the cargo left at such port of refuge on account of its being unfit to be carried forward, or on account of unfitness or inability of the ship to carry it, shall not be called on to contribute to such gen. average.

9. *Damage to Cargo Discharging*.—Damage done to cargo by discharging it at a port of refuge shall not be admissible as gen. average, in case such cargo shall have been at the place and in the manner customary at that port with ships not in distress.

10. *Contributory Values*.—The contributions to a gen. average shall be made upon the actual values of the property at the termination of the adventure, to which shall be added the amount made good as gen. average for property sacrificed; deduction being made from the shipowner's freight and passage money at risk of $\frac{3}{4}$ ths of such freight, in lieu of crew's wages, port charges, and all other deductions; deduction being also made from the value of the property of all charges incurred in respect thereof subsequently to the arising of the claim to gen. average.

11. In every case in which a sacrifice of cargo is made good as gen. average, the loss of freight, if any, which is caused by such loss of cargo, shall likewise be so made good.

Here is a thoroughly consistent code, clear and understandable by all; but we assume because it is so, it has small chance of being generally adopted.

1866.—Mr. Richard Morrison contributed to the *Assu. Mag.* (vols. xii. and xiii.) a

series of papers on Gen. Average, in which the philosophy, so to speak, of the preceding (proposed) international regulations is discussed with candour and learning, and, in our opinion, with convincing force.

1867.—Mr. Francis B. Dixon's *Practical Treatise on the Adjustment of General Average in the U.S. and other Countries, including the Elements of Maritime and Ins. Law, also the Rights and Liabilities of Underwriters and Shipowners, and the General Duties of Shipmasters*, is precisely what it pretends to be—an essentially practical treatise, pointing out the harmonies and the conflicts prevailing in various countries. The student of the subject cannot dispense with this work.

1873.—Mr. Richard Lowndes pub.: *The Law of General Average, English and Foreign*. This is regarded as a work of high authority. (2nd ed. 1874.) The *Law Times* reviewer, in his criticism upon this book, offered (*inter alia*) the following excellent observations:

It is very remarkable that such a law as that of gen. average should have grown to its present proportions. Nothing can be simpler than the original and elementary principle; nothing can well be more complicated and difficult to understand and appreciate than the adjustment of average. Different countries adopt different bases, and the comparative table which Mr. Lowndes places at the commencement of his work is a very interesting document. Attempts have been made, and doubtless will again be made, to bring the various trading countries into uniformity of practice, so as to get rid of the difficulties which are apt to arise in connexion with foreign adjustments, and to enable partners in maritime adventures to be reasonably certain of their responsibilities and rights *inter se*. There is, however, we are sorry to say, at present but little prospect that this very desirable agreement will be come to, and whilst the conflict of principle and practice exists, such a work as that before us must be of large practical utility.

1874.—The American case of *McLoons*, administrator, v. *Cummings*, decided this year in the Courts of Pennsylvania, contained a statement of a number of important principles in regard to the law of General Average, which have already engaged considerable attention.

1875.—Mr. F. Octavius Crump pub.: *The Principles of the Law of Marine Ins. and Gen. Average*—a work of great merit, and which goes far to show that the codification of the principles of Gen. Average is simply a question of time and brain power. Average adjusters will find this work of immense advantage, if only as a compendium of authorities and cases on the points which arise in practice.

1876.—As a proof of the extended interest taken in the subject of Gen. Average adjustments, we may notice the fact of the presence in Eng. at the latter part of this year, of Mr. Thomas H. Mabin, of Auckland, New Zealand, an average adjuster, who was actively engaged in reviewing the various recent decisions in the English Courts, and in pointing out not only the inconsistencies, but the absolute injustice involved in some of them. We had contemplated a review of these decisions in this present art., but we find such a disquisition better suited to the pages of a work wholly devoted to the Law and Practice of Gen. Average. Mr. Crump's work of last year too has anticipated us.

1877.—The accumulated abuses which have crept into gen. average settlements of late years by the combined action (as is asserted) of shipowners and average staters, has led to a proposal by some of the more prominent members of Lloyd's to do away with gen. average settlements altogether, and to pay for the goods actually lost in the ratio of the ins. to their value. It is said, and said truly, that if *all interests* in ship and cargo be fully ins., the entire loss falls upon the underwriters—plus expenses of statements, etc. This proposal is of a very radical character; but if it be the only means by which unscrupulous shipowners can be restrained from making profit out of gen. average acts, we should not be sorry to see it seriously entertained by the great body of marine underwriters. A conference of all interests has been proposed, in a pamphlet devoted to this question. Some underwriters think that to abolish Gen. Average altogether would be a mistake and a disaster.

1878.—As recently as May this year, a conference of shipowners, underwriters, and representatives of marine ins. cos., was held in London, in view of harmonizing points in the practice of Gen. Average, as between our own and other countries. The "York and Antwerp" Rules were entertained with great favour.

There was pub. by David Murray, M.A., Procurator, Glasgow, a pamph.: *International General Average*; being an article reprinted from the *Journal of Jurisprudence*.

Foreign Practice.—We have already reviewed the practice in regard to settlements made up in foreign ports under FOREIGN ADJUSTMENT OF GEN. AVERAGE. The Editor of 3rd ed. of Arnold's *Law of Marine Ins.*, 1866, says in a note, p. 820:

A view of the principles of gen. average and of adjustment followed abroad, would require a vol., and still be imperfect; and at best serve no practical purpose. In each country, as in our own, every port differs more or less from another in the rules and principles which it follows in this matter.

[AVERAGE ADJUSTERS.] [AVERAGE, MARITIME.] [CAPTURE.] [COMPUTATION OF AVERAGE.] [DETENTION OF PRINCES.] [EXPENSES FOR SHIP'S USE.] [FREIGHT.] [INS. FRAUDS.] [JETTISON.] [MARINE INS. PRACTICE.] [NEW FOR OLD.] [PARTICULAR AVERAGE.] [PERISHABLE GOODS.] [SEAWORTHY.]

GENERAL AVERAGE ACT.—An act which can give rise to a general average may be called a "General Average Act."—*Lawrence R. Bailly*.

GENERAL AVERAGE BOND.—This is an ingenious contrivance, by means of which, instead

of goods being kept on board ship, and becoming deteriorated, while the owner is also losing the freight of his ship, during the adjustment of complex and disputed cases, they are released: the master and owner on the one part, and the consignees on the other, agreeing that on payment of freight the goods shall be released subject to the promise, *i.e.* the bond, on the part of the latter, to pay the *proper and respective proportion of any gen. average*, or particular average, or other charges which may be chargeable.

This plan has worked on the whole very well; but in 1878 the Liverpool Shipowners Asso. suggested a deposit of money in place of the bond; the London Shipowners Asso. gave its adhesion to this and some accompanying proposals.

GENERAL AVERAGE IN RELATION TO FIRE INS.—It is clear that the principles of Gen. Average cannot be applied to Fire Ins. There was, however, an attempt made in this direction in the case of *Welles v. Boston Ins. Co.*, before the Courts of Massachusetts in 1828, of which the following are the short facts:

A fire happening in the vicinity of the building containing the insured goods, the insured, with the consent of the underwriters, bought some blankets and spread them over the windows and doors and thus saved the building and contents, but the blankets were destroyed.—*Held*, (1) that the loss of the blankets was not one protected by the pol., but that the insured *might claim on the ground of a sacrifice made by them for the preservation of the property endangered by the fire, and for a proportion of which sacrifice they were equitably if not legally entitled to recover*; (2) further, that the adjoining buildings, which might also have been destroyed, had the store containing the insured goods taken fire, and on which the defendants had underwritten, were not liable to pay a proportion of this expense, as the contribution must be limited to the building and property therein immediately saved. (6 Pick. Mass. 182.)

GENERAL BENEFIT INS. CO.—Founded in 1820 [sometimes called *Mutual Benefit*, or *General Benefit Life Assu. and Loan So.*], with an authorized cap. of £50,000, as a species of superior Friendly So. and Industrial Life Office combined. It was the first of this class, and great interest was attached to its formation. Its rates were prepared by Mr. Wm. Morgan and Mr. Frend; the Duke of Gloucester became a Patron; the Duke of Bedford, President; while among the Vice-Presidents, Trustees, and Directors, were many well-known names, as Mr. Alderman Matthew Wood, etc., etc.

The Co. granted Endowment Ins., Short-term Ins., etc.

It also had a *Fire* branch, in which the ins. against loss or damage by fire of working tools, and household furniture, etc., in small amounts, suited to the wants of the industrial classes, was made a feature. A scale of monthly premiums was pub. for insuring sums from £10 up to £100. For £10 the monthly prem. (including duty) was 1*d.*; with 1*d.* for each £10 add. "The working tools of mechanics insured at this office, if destroyed or damaged by fire, either on the premises described in the pol., or in any other premises where they may have been taken for the purpose of being used by the assured in his trade, will be made good within 7 days, upon satisfactory proof being adduced of the value thereof."

1825.—The Asso. issued "proposals for the ins. of weekly allowances to females during sickness and lying-in, with medical attendance and medicine; sums of money at death, provisions in old age, etc., etc." wherein occurred the following passage:

The success which has attended their [the directors] endeavours to introduce the system of ins. as a basis whereon the artisan and labourer may provide against the casualties of life upon principles at the same time equitable and perfectly independent, has been signal indeed. On the *male* T. of this Inst. many thousand ins. have been effected. Public confidence has become one of the results of sound policy and a liberal administration; and the knowledge acquired in this Inst. from practical experience, upon a subject of such vast national importance, as a thorough acquaintance with the average quantity of sickness and casualty prevailing amongst the manufacturing and labouring classes, and the various trades and occupations composing it, is one of the desiderata fully accomplished, and has at this moment perhaps no parallel.

Under F. S. S. we have already reviewed the details of this scheme. At this date the Asso. had 3320 members.

1854.—This Asso. was now brought before the Court of Chancery, on an application for the appointment of a receiver, in the case of *Evans v. Coventry*. It was alleged by counsel in these proceedings that the *Gen. Benefit and Life Assu. So.*, as the enterprise was now designated, had for many years been worked in conjunction with the *City of London Loan Deposit Bank*; that the Sec., John Brydie, had absconded to Australia, leaving the affairs of the Asso. in great confusion, and carrying away £11,000 of the funds. It was asserted that the Asso. had issued in all 16,682 ins.—or an average of 670 p.a. The two Asso., it was asserted, consisted of the same members. The Court refused the application, and recommended the parties to come to an amicable settlement of affairs.

On appeal, this decision was reversed.

1856.—On the reversal of the decree for the appointment of a receiver, it had been ordered that the bill be amended, and it now asked the general administration of the funds of the So., and sought to make the directors liable for the moneys made away with by the late Sec., on the ground that they had, in breach of their duty, allowed him to have the uncontrolled management of the funds. The bill sought also to make the

directors liable, if need be, to the extent of £50,000, on the ground that the representations in the printed prosp. were to be taken as a guarantee that the funds did amount to that sum. V. C. Kindersley made a decree directing an account of the property of the Co., and of its debts and liabilities, declaring that the directors were liable from the times when they respectively began to act as such. The decree proceeded to declare that the allowance of certain sums to themselves beyond what the Deed of Sett. authorized, as also the declaring of dividends, were breaches of trust, as were some other matters; but the directors were not bound to make up the cap. to £50,000. Nor were they liable for Brydie's defalcations.

This decree was itself varied in some details afterwards, 1857.

The case of *Evans v. Coventry* has now become one of great importance in Ins. Law.

The final incidents regarding the Asso. have been given under FRIENDLY SOS. 1858.—See also 4th Rep. of Registrar of Friendly Sos., pp. 8-10.

GENERAL COMMERCIAL DEBT INS. CO.—An asso. under this title was projected in 1849, having for its objects the insuring against *Commercial Failure*, the *Purchase of Dividends*, *Compositions of Bankrupts and Insolvents*, etc. The idea was afterwards in part carried out by the Commercial Credit Asso. The proposed capital was £500,000, in shares of £20. [COMMERCIAL CREDIT INS.]

GENERAL COMMISSION AND SHIP LOAN INS. CO.—Founded in London in 1847 for the purpose of carrying on the bus. of marine ins. Its authorized cap. was £20,000. It ceased to carry on bus. in 1850.

We believe this was projected originally as the *General Shipping and Freight* by Mr. Augustus Collingridge and Mr. J. N. Burnand. When it ceased business there were unsatisfied claims to the extent of about £25,000. The signatures to the D. of Sett. were obtained by a small cash payment for each, and were, in the sense of security, entirely fictitious.

GENERAL ENDOWMENT SO.—This title was sometimes used for the GENERAL ANNUITY AND ENDOWMENT FUND.

GENERAL EXPENDITURE ASSU. CO. LIMITED.—Founded in 1874, with an authorized cap. of £100,000, in 20,000 shares of £5. The regis. objects of the Co. are: "To carry into effect a system for the redemption of cap. and expenditure applied to trade, commerce, and financial undertakings, as well as domestic expenditure of all kinds. To acquire, sell, and make advances upon mortgage or otherwise deal in houses and lands; to lend and borrow money on securities; to undertake financial operations of all descriptions, including loans to governments, states, corporations, or other bodies duly authorized; to contract loans, to issue bonds and debentures, and to subscribe, hold, sell, or otherwise dispose of shares of any bank or co. or asso."

The scheme of this Asso.—borrowed from similar ones which have existed for many years in *France*—resolves itself into what is more generally known as the "Coupon Trading System." The mode of working requires to be explained in detail before it can be made comprehensive; we therefore present the leading features of the prosp.:

Objects.—The bus. objects for which the Co. is estab. are: 1. To collect and utilize the discounts obtainable on all cash transactions. 2. To found thereon and extend a system of assu. whereby every person may secure the return of all ready money expended from day to day for the various necessities of life. 3. To enable every one, without cost, at any age, to assure his life to any amount in any first-class life assu. so. selected by him and approved by the Co.

Directions.—Purchase from the tradesmen mentioned in this list, and pay ready money. Demand coupons for the full amount of ready money purchases, from sixpence upwards. Having collected coupons to the amount of £5, send them to the Co., within the time named on each coupon, to be exchanged for a £5 assu. bond, note, certificate, or such other security as may be issued by the Co. from time to time, hereinafter termed "Bond." The bonds are payable by half-yearly ballots (*Ballots*). Persons desirous of securing the repayment of one year's expenditure fifteen years afterwards, must convert their bonds into certificates (*Certificates*).

Trade Members.—The Co. selects and appoints certain merchants and tradesmen representing every branch of trade throughout the kingdom, as "Trade Members." These "Trade Members" are supplied with the coupons of the Co., on the nominal value of which they pay a prem. of 5 p.c., that is, for every £1 worth of coupons the trade members receive, they pay 1s. to the Co., equivalent to the allowance of 5 p.c. to their customers.

The Coupons.—The coupons are small printed tickets or vouchers, ranging in value from 6d. to £1, and are given free of charge by the trade members to their customers, for the full amount of all ready money purchases. By this means, customers, dealing with any of the trade members, instead of taking the ordinary discount of 5 p.c., receive coupons for the full amount of their purchase from 6d. upwards. As often as the coupons obtained from the various trade members amount collectively to £5 in value, they must be exchanged at the head office of the Co. for the Co.'s bonds. If not presented for exchange on or before the date mentioned on the coupons, they will be null and void.

The Bonds or Notes.—The bonds are each of the value of £5, payable to bearer, and are issued in exchange for £5 worth of coupons surrendered. The bonds are issued in series, a series being complete on the 30th June of each year. The payment of the bonds is effected by a system of ballots.

The Certificates.—The certificates are issued for any amounts in exchange for bonds or notes. They are also issued in series, a series being complete on 31st Dec. of each year. The payment of certificates is assured at the end of the term for which they are issued (15 years) out of the certificate redemption funds, without ballots. (See later.)

Ballots.—A ballot of all bonds of a completed series takes place every half-year in the manner of drawings, as in Building Societies, and in the presence of a notary public. In each series are 150 ballots in which all bonds will be redeemed. After each ballot the number of bonds which are drawn are announced in London daily papers, and by circular from the Co.'s office, and are paid without any deduction. Those which are not drawn at one ballot remain for drawing at the next half-yearly ballot, and so on until all bonds are redeemed. The ballots take place in Jan. and July in each year. After three years from the date of issue the Co. will purchase any undrawn bonds, on terms depending on the age of the bonds.

Example of Working.—A person wishing to avail himself of the coupon trading system, obtains a list of the Co.'s trade members, and lays out with them the following sums, paying ready money :

	£	s.	d.		£	s.	d.
Butcher (Trade Member).....	0	18	6	Lindendrap (Trade Member).....	1	2	0
Baker „	0	5	6	Shoemaker „	0	15	0
Grocer „	0	11	6	Hosier „	0	12	6
Cheesemonger „	0	3	0				
Fishmonger „	0	7	6				
Ironmonger „	0	4	6				
					£5	0	0

From each of these tradesmen he will obtain coupons for the amount of his purchase ; and having thus collected £5 worth, he must forward them to the Co., and receive in exchange the Co.'s bond. The same with every £5 worth of coupons he may collect by dealing with the trade members. When the numbers of his bonds are announced as drawn at the half-yearly ballots, he will obtain £5 for each bond on presentation of his bonds to the Co.

Persons desirous of assuring their rent, taxes, and other expenditure for which they cannot obtain coupons, may purchase coupons at the rate of 5 p.c. Application forms may be obtained at the Company's offices.

The Funds and Investments.—To insure the payment of the bonds, 90 p.c. of the funds received in respect of bonds issued in exchange for coupons, is invested in the names of trustees, in Gov. and other sound securities. The funds of each series are kept separate.

Security for the Bonds.—The funds invested for the payment of the bonds are free from all other liabilities of the Co. They are separated from the ordinary funds of the Co., and cannot be applied to any other purpose until all the bonds have been discharged in full, “whereby bondholders have absolutely independent security for the payment of their bonds.”

Basis of Calculations.—The calculations on which the system is based require the funds for the redemption of the bonds to be invested in securities yielding from 4 to 5 p.c. int. p.a. From the accumulative compound int. of such investments, the bonds are paid off in full from time to time by ballots, as also from a portion of the moneys representing lost and unreturned coupons. N.B.—The example given below of the accumulative power of compound int. will enable any person to verify the accuracy of the calculations on which the system is based.

Soundness of the Investments.—The calculations being based on an ordinary rate of interest, no advantage would be gained by investing in other than sound and approved securities, in which the Co. has power only to invest. But in order to give the utmost confidence, the council of bondholders and of trade members are invited to inspect from time to time the securities in which the funds are invested for the redemption of the bonds.

Benefits to Customers.—The great benefits which the “coupon trading system” offers to the public are, that by simply paying ready money and dealing with the trade members of the Society, any person may, without cost, trouble, or liability, secure the *absolute return of every shilling he spends from day to day*. Nor need it be feared that he will be charged a higher price for his goods, or receive inferior articles. The per-centage charged for the coupons being no more than the 5 p.c. discount most tradesmen now allow for ready money, they lose nothing more than they are now prepared to give, and even this discount is recovered by the tradesmen in the bonds they receive for every £5 paid in the purchase of coupons.

Benefits to Trade Members.—The most important advantage which tradesmen derive from this system is, that they may secure a “ready money trade.” This means to them no bad debts, no expense in booking and collecting accounts, and no anxiety from

uncertain payments. They can compete with large capitalists and trading sos., and they can extend their connexion by the extensive publicity given to their names, by the circulation of the Co.'s trade list. Every purchase of coupons to the amount of £5 entitles them also to a bond, by means of which they are ultimately recouped every payment made to the Co. No charge is made for membership, nor does it involve any liability, cost or responsibility whatever.

Hospitals and Public Institutions.—To the governors of hospitals and other philanthropic inst. supported by voluntary contributions, the advantages secured by the coupon trading system are of great importance. By purchasing their goods and provisions of the trade members of the Co., they secure the *return of all the money so expended*, and are thus placed in a position of independence as regards future subscriptions.

To schools and other large estab., the benefits of the system are alike applicable.

The Discounts.—When a purchase is made to the amount of £5, the discount at 5 p.c. is 5s. ; £1, 1s. ; 10s., 6d. ; 5s., 3d. ; 2s. 6d., 1½d. ; 1s., ¾d. ; 6d., ⅓d.

These small and fractional discounts, which customers seldom, if ever, take, are, by the system of this Co., paid by the trade members in the purchase of coupons. What these small discounts amount to when thus collected, may be judged of from the fact that if only 1000 tradesmen, each doing a gross bus. of £2000 a year, pay to the Co. the 5 p.c. discount their customers now disregard, the Co. would receive £100,000 p.a.

Compound Interest.—The principle of the Co. being based on the investment of its funds at compound int., the following T., showing the annual increase of £5 for 75 years at £5 p.c., may prove interesting to those not fully conversant with the accumulative power of compound int. :

Yrs.	£	s.	d.	Yrs.	£	s.	d.	Yrs.	£	s.	d.	Yrs.	£	s.	d.
1	5	5	0	20	13	5	4	39	33	10	5	58	84	14	3
2	5	10	3	21	13	18	7	40	35	4	0	59	88	19	0
3	5	15	9	22	14	12	6	41	36	19	2	60	93	7	11
4	6	1	6	23	15	7	1	42	38	16	1	61	98	1	3
5	6	7	7	24	16	2	6	43	40	15	0	62	102	19	4
6	6	14	0	25	16	18	7	44	42	15	8	63	108	2	4
7	7	0	8	26	17	15	6	45	44	18	6	64	113	10	5
8	7	7	9	27	18	13	4	46	47	3	5	65	119	4	0
9	7	15	1	28	19	12	0	47	49	10	7	66	125	3	2
10	8	2	10	29	20	11	7	48	52	0	1	67	131	8	4
11	8	11	0	30	21	12	2	49	54	12	1	68	137	19	9
12	8	19	7	31	22	13	9	50	57	6	8	69	144	17	9
13	9	8	6	32	23	16	6	51	60	4	0	70	152	2	8
14	9	18	0	33	25	0	3	52	63	4	3	71	159	14	9
15	10	7	10	34	26	5	4	53	66	7	6	72	167	14	6
16	10	18	3	35	27	11	7	54	69	13	10	73	176	2	2
17	11	9	2	36	28	19	2	55	73	3	7	74	184	18	4
18	12	0	8	37	30	8	1	56	76	16	8	75	194	3	3
19	12	12	8	38	31	18	6	57	80	13	6				

Assurance of Life.—It may be said that this method of providing for the future loses some of its practical value by reason of the length of time which must elapse before all the bonds can be redeemed. But they can be applied to immediate and great practical utility. Arising out of the system of assu. of general expenditure is the important feature of life assu., an add. advantage which the So. now offers to its bondholders. Any bondholder desiring to assure his life in any first-class life office approved by the Co. may do so to any amount without payment of premiums by exchanging his bonds for a life pol. and surrendering a certain number of his bonds ann. to the Co. Any bondholder whose life is already assu. may likewise secure the ann. payment of his prems. by surrendering ann. to the Co. a certain number of his bonds. The number of bonds to be exchanged for a pol. will depend on the age of the person whose life is to be insured, and the amount of the pol. and the number of bonds to be surrendered annually to the Co. to secure the ann. payment of prems. will also depend on the amount of the prems. and the dates of the bonds. The following scale shows the number of new bonds which may be exchanged for a life pol. of £100:

Age not exceeding	25	30	35	40	45	50	55	60
Bonds	12	11	10	9	8	7	6	5

The ann. surrender of the like number of new bonds will also secure the ann. payment of prems. on lives assured for the like amount. The amount of pol. is not confined to £100; any larger or smaller sums may be thus assured on the exchange and ann. surrender of a proportionate number of bonds.

Example.—A person who spends £60 a year with the trade members of the So. in purchasing the common necessities of life, will obtain 12 bonds. In exchange for these he may, at the age of 25, receive a life pol. of £100 in any approved first-class life office, and the Co. will guarantee the ann. payment of his prems. on his surrendering yearly the same number of bonds. Provision in case of death may thus be made by any person without any payment or outlay whatever.

Lives Uninsured.—The foregoing applies to those who can pass a medical examination in the ordinary way. To those whose health precludes them from the benefits of life assu., the bonds of the Co. approximate advantages not otherwise attainable; for the Co. will, at any time after 3 years from the completion of each series, give an equitable surrender value for them, thus securing to the holders thereof a modified form of life assu.

Then there has been pub.: "Further Development of the Coupon Trading System," viz. *The Return in Full of One Year's Expenditure 15 Years afterwards.* The important advantage of assuring the absolute return of a year's expenditure, of whatever amount, at a fixed date, can be secured by any person adopting the "Coupon Trading System." Bondholders desirous of securing the return of one year's expenditure at the end of the next 15 years, must surrender and convert into certificates at the end of the first and each of the succeeding 15 years bonds to the amount of the first year's expenditure.

The Certificates.—The certificates are issued in exchange for bonds, and they correspond in amount with the number of bonds surrendered in the first year. The certificates are not subject to drawings, but they entitle the holder to receive the full amount of the first year's expenditure at the end of the next 15 years, on condition that he continues the surrender of the same number of bonds annually during each of those years. The certificates are therefore in the nature of short-term policies, the premiums on which are payable in bonds, and which mature and become payable in cash simultaneously with the payment of the sixteenth premium. They are paid in full out of special certificate redemption funds set apart for the purpose without ballots.

Example.—A. spends £500 a year with the trade members of the Co., receiving from time to time the Co.'s coupons to that amount, exchanging them in due course for bonds. Should he at the end of the first year desire to obtain the certain payment of his year's expenditure of £500, 15 years afterwards, instead of receiving payment of his bonds by ballot, he will surrender and convert his £500 of bonds at the end of the first year into a certificate for £500, payable 15 years afterwards, and will surrender the same number of bonds ann. during the 15 years' term of the certificate. On presentation of his certificate fully paid up at the end of the 15 years' term, he will receive £500 in cash, being the amount of his first year's expenditure. Any sum of money from £5 upwards may be assured in this manner.

The adoption of this system involves no other obligation than that of surrendering ann. the same number of bonds. Should the certificate holder, however, fail from any cause to obtain the requisite number in any year, he may purchase direct from the Co. the number of bonds of which he is deficient.

A certificate is not liable to forfeiture by death of the holder. In this event the legal personal representatives of the deceased may continue to surrender on behalf of his family bonds of the requisite amount until the maturity of the certificate, or they may receive 80 p.c. of the cash value of the certificate at the time of the decease.

Rebatement of Certificates.—A further advantage is offered to the holders of certificates. The Co. will purchase its certificates AT ANY TIME, giving 80 p.c. of their cash value at the time of surrender.

Provision for Children.—The following will indicate how advantageous is the system to parents and others who have regular and permanent incomes, and who desire to make a provision for themselves or their children at a given time without trenching on their present means, or limiting their necessary expenditure.

A. has a son 6 years of age, and wishes to secure him a sum of money at the age of 21, to start him in life, or for any other purpose; say £500. If the yearly expenditure of A. amounts to this, he has only to collect the coupons and purchase the certificate as indicated. Should his expenditure be reduced from any cause in any year to, say £400, he can make up the balance by a payment of £5 in the purchase of the additional bonds, and secure the payment of £500 in cash, at the end of the 15 years' term of the certificate.

"It will thus be seen that without the additional outlay of a single shilling, without incurring any liability, without curtailing his present expenditure, and without any additional trouble, but by simply dealing with the trade members of the Co., and paying cash for daily requirements, any person may have returned to him the amount of his first year's expenditure, fifteen years afterwards."

A council of bond and certificate holders is reported to exist.

It will be understood that in the preceding we simply quote the language of the prosp., slightly condensed in a few places; and that we offer no opinion on the soundness of the project—except to say that it is quite feasible under careful and very economic management.

In 1875 there was founded the *Expenditure Redemption Bank*.

In 1877 the *Outlay Indemnity So.*

Under the title of OUTLAY INDEMNITY SCHEMES, we shall hope to review the progress which this branch of Ins. has made in the U.K.

GENERAL FREIGHT ASSU. CO.—A project under this title was announced about 1849 by Mr. A. Collingridge. We believe it made no progress.

GENERAL GUARANTEE INS. CO. LIM.—This Co. was in reality the *Household Fire Ins. Co.* under a new name—the change sanctioned by the Board of Trade in 1870. Its purpose was to take over the Fidelity Guar. branch of the *General Accident and Guar.*

Co. ; but the arrangements were never completed. The business of the last-named Co. was trans. to the *London Guar. and Accident*, and this Co. passed into voluntary liquidation : Mr. E. E. Scott being liquidator.

GENERAL HAILSTORM INS. SO.—Founded at Norwich in 1843, with an authorized cap. of £200,000, in 8000 shares of £25 each. The circumstances which gave rise to the formation of this Co. arose out of the great hailstorm in Norfolk in Aug. of this year, when the destruction of crops was so great that a voluntary county rate was made in favour of the sufferers. In the first prosp. the Co. was designated as the *Norwich Hail* ; but the scope of the enterprise speedily took wider lines, and hence the adoption of the title "General." The pol.-holders parti. in profits.

The founder of the Co. was Mr. Charles S. Gilman, of Norwich, who is still its Sec.

The operations of the Co. have been most successful ; the returns to the pol.-holders have been as satisfactory as those to the shareholders. The ann. reports of the Co. have furnished the data for a series of interesting obs. on hailstorms, which we shall speak of under HAIL INS.

In 1875 the Co. took over the bus. of the *National Economic Hail*.

GENERAL HIGHWAY ACT—5 & 6 Wm. IV. c. 50 (1835).—Its special provisions in relation to FIRE PREVENTION are given under that head.

GENERAL HOMŒOPATHIC LIFE, ANNUITY, AND SICKNESS CO.—Projected in 1865, with an authorized cap. of £500,000. Mr. Augusto Soares was the first regis. promoter. The Co. did not go forward.

GENERAL HOMŒOPATHIC PROVIDENT ASSU. CO. LIM.—A Co. was founded under this title in 1865, but afterwards changed its name, and became the *General Provident Assu. Co.*, which see.

GENERAL INCENDIARY HAZARD.—The common hazard of incendiary burning ; becoming *special* after threats, or other obvious increase of danger, as the making of a railway, and the consequent continuous passing of locomotives near thatched buildings, or agricultural premises.

GENERAL INDEMNITY INS. CO.—"For the Guarantee against Losses arising from Robberies, Forgeries, Frauds, Debts, Insolvency ; Fire, and Non-payment of Rent ; Life Assu. also is effected on improved and safe principles ; Plate Glass also Ins." Founded 1853, with an authorized cap. of £500,000 (power to increase to £1,000,000) in 100,000 shares of £5. The special features of the Co. as set out in the prosp. were the following :

This Co. has been estab. for the purpose of combining in one office, and concentrating under one management, the various modes to which the principle of Ins. is capable of being applied.

The bus. of the *General Indemnity Ins. Co.* comprises *all the forms of ins.* at present in action, and includes some new and important features not previously brought before the public. These are divided between its three main departments in the following manner :

1. Ins. against robberies, forgeries, frauds, etc.

2. Ins. against losses by bad debts, and guarantee of rents. (This department includes the collection of debts and rents without guarantee, at a moderate commission ; the winding up of bankrupt and insolvent estates, and advances to assurers, on the security of unrealized assets not immediately available, and the purchase and sale of estates.)

[COMMERCIAL CREDIT INS.]

3. Fire and Life Ins. in all its branches. Insurances to mortgagors, providing for repayment of mortgage-money ; Annuities and Loans to pol.-holders, on real and personal security. The Fire depart. includes a new feature of considerable importance—Insurance against loss of bus. profits in consequence of fire.

In 1857 the bus. (which was limited) was trans. to the *Commercial Life* ; and the winding up of the Co. followed, occasioning great distress to a multitude of respectable people. *Post Mag.* 1857, p. 401.

Mr. J. J. Bowler was the first "Act." of the Co. ; Mr. John Geo. Hughes its Sec.

GENERAL INDUSTRIAL LIFE AND DEPOSIT INS. CO.—Projected in 1849 by Mr. W. Cleland. It did not go forward.

GENERAL INS. FROM FIRE.—A Co. under this title was projected during the South Sea period (1710–20), with an authorized cap. of £1,200,000. The sum of 2s. 6d. only was paid on the shares, but they reached the price of £8 in 1720, according to the authority of Anderson (vol. ii. p. 293).

GENERAL INVALID INS. CO.—A Co. under this title was founded in London in 1840. It was prob. absorbed in the *Medical Invalid and General*, founded in the succeeding year.

GENERAL ISSUE.—In *Law*, a plea simply traversing *modo et formâ* the allegations in the declaration. In criminal proceedings, the general issue is the *viva voce* plea of "not guilty."

GENERAL LIEN.—A right to detain a chattel, etc., until payment be made, not only of any debt due in respect of the particular chattel, but of any bal. that may be due on general account in the same line of bus. A general lien being against the ordinary rule of law depends entirely upon contract, express, or implied from the special usage of the dealing between the parties.—*Wharton*. [LIEN.]

GENERAL LIFE ASSURANCE CO.—An Asso. under this title was projected in 1846 by Mr. Robert Rising, and Mr. Alfred Cobbold, Solicitors, Ipswich. The project did not advance.

GENERAL LIFE AND FIRE INS. CO.—Founded in 1837 under the title of "*The Protestant Dissenters and General Life and Fire Assu. Co.*," with a cap. of £1,000,000 divided into 10,000 shares of £100, with £5 paid.

The office was founded: "with a view of calling the attention of a numerous and influential section of the community to the importance of thus providing for the future comfort of their families. . . . Another object contemplated by the Co. is an appropriation of a portion of the profits of the bus. to the benefit of the families of Dissenting and Wesleyan ministers. By awakening an increased attention to the subject of Life Assu., the directors hope greatly to benefit the body at large, while by concentrating this business in one inst., they design the formation of a fund from which a simple, delicate, and most honourable provision may be made for the comfort of the families of their ministers. It is therefore made an integral part of the constitution of the Co., and provided for in its Deed of Sett., that *a tenth part of the profits of the bus. shall be set apart to form 'The Ministers Fund'*—one-half to be applied to reduction of prems. on their ins., the other half to be applied according to judgment of the Board."

The preceding statement of the objects of the Co. was set out in an official pamph. pub. by the Co. some years since; while in yet another pamph. we find the following:—

The circumstances of the Dissenters of this country are exactly such as render this mode of investment most advisable; while there is reason to conclude that as yet they have availed themselves of it to a very limited extent. It was thought by the projectors of the present Co. that an inst. bearing their name and conducted principally by members of their own body would be more likely to awaken the attention and command the confidence of Dissenters, than the several offices previously existing. Under this impression the Co. has been formed; and it will be the peculiar care of the directors to avail themselves of the extensive means of influence and channels of communication which they possess to convey a knowledge of the advantages of assu. to every town and village in the United Empire. And in order that they may extend as far as possible the benefits now enjoyed by the more opulent, to classes which have as yet been scarcely reached, facilities will be given for effecting small pol.—an object favoured by the Legislature, which has recently *reduced the stamp duty* payable in respect of pol. of that description.

We do not know if this last intimation implied any view to "Industrial" bus. But there was yet another feature, attaching to this office, as follows:

Some of the most respectable and best estab. offices make it one of the conditions of their fire pol., that the insured in case of loss shall secure a certificate from the parochial clergyman and churchwardens of his character and circumstances, and of the amount and particulars of the loss. The *Dissenters and General Assu. Co.* receive from sufferers belonging to their community the certificate of the minister, deacons, and elders of the churches to which they belong. The Co. will likewise receive similar certificates of the continuance of the lives of their annuitants, and of the decease of their assured.

Turning to the D. of Sett., which bears date 9 May, 1838, it recites the formation of the Co.—the moving parties being Thomas Challis, Thomas Piper, Andrew Caldecott, Geo. Bousfield, Joseph Fletcher, Charles Pelham Villiers, M.P., etc., etc. The remaining £95 p. share unpaid not to be called up unless "Shareholders Fund" should be reduced below £40,000 [see 1857]. After 1st Jan. 1840, there was to be an ann. gen. meeting (sec. 1). Special gen. meeting may be called by any 20 or more proprietors holding not less than 10 shares each (4). Gen. meetings to consist of not less than 25 persons (7 and 8). At any gen. meeting called in view of dissolving the Co., life pol.-holders of £1000 entitled to attend (18). Proprietors insured to vote in respect of each £1000 insured, as well as in respect of shares (19). But no *such* vote to be given by proxy (20). As to calling up further cap. (27). As to reduction of cap. (28). Increase of cap. (29). New rules and alterations of rules may be made, but must not alter provision as to 10th of profits applicable to "Ministers Fund" (30). On vote of 2 gen. meetings any branch of bus. might be discontinued (31). Or 2 meetings may dissolve Co. (32). Quorum at Board to consist of 5 directors (37). The directors may appoint local committees (53). Directors may appoint a Managing Director (54). Life pol. might be granted on persons wherever residing, and upon persons below the ordinary standard of health (65). [LIMITS OF RESIDENCE, etc.] Cap. to be alone liable for engagements (70). Directors may purchase reversions, life interests, etc. Reinsurances and trans. of risks to other offices may be made (79). The directors to provide a house for the Co., and furnish and fit up same (80).

The directors were to form 5 several funds, to be called respectively "The Proprietors Fund," "The Fire Ins. Fund," "The First Life Assu. Fund," "The Second Life Assu. Fund," "The Ministers Fund." The first to be composed of the sums paid in by way of cap., and of add. made thereto; the second of the prems. for fire ins. and the add. thereto; the 3rd of prems. on non-parti. life pol., also for endowments for widows or children, and for annu.; the 4th of prems. for parti. life ins., and of fines for non-appearance, etc., and of accumulations; the fifth, or Ministers Fund, to be composed of *one-tenth* of the profits from the 2nd, 3rd, and 4th funds enumerated. This to be applied as after stated (81). The first actuarial investigation to be made in 1843 (82). Afterwards an ann. investigation to be made of both Life Funds "according to the existing knowledge of the principles of Life Ins.;" after *one-tenth* to Ministers Fund; the remain-

ing nine-tenths to be divided into 2 equal portions, one for the Proprietors Fund, the other to be divided among the insured (83, 4).—See 1846 and 1852.

The amount to be divided among proprietors to be ascertained annually after 1838 (85). Meantime int. at 4 p.c. might be paid on paid-up cap. "One p.c. upon the paid-up cap. to be paid amongst and out of the 3 Assu. Funds to the Proprietors Fund for the security of the Guarantee Fund" (89).

90. That the Ministers Fund shall be appropriated solely for the benefit of Protestant Dissenting and Methodist Ministers and their families, and the same shall be applied in manner following (that is to say), one-half at least of the amount of such fund shall from time to time, as often as the directors in their discretion may think fit, be applied in the reduction of the prems. of assu. effected with this Co. upon the lives of such Protestant Dissenting and Methodist Ministers as at the time of effecting such assu. or otherwise shall by a resolution of the Board be elected and determined by the said directors, whether the said assurances shall have been effected by such ministers themselves or by their congregations, or by any other persons on their behalf, and for the benefit of themselves or families, or whether such assu. shall have been partly by themselves, and partly by such congregations or other persons on their behalf; and the other half of such fund, or so much thereof as shall not have been applied as aforesaid, shall be appropriated in such manner as the directors shall think fit, for the benefit of the families of Protestant Dissenting and Methodist Ministers: provided always, and it is hereby expressly declared, that no Protestant Dissenting or Methodist Minister or family of any . . . shall as such acquire any right to a part in the benefits and advantages of the said fund, unless he or they shall have been expressly elected and appointed to receive a portion of such benefits under a resolution of the Board, and then only in such proportions, and to such amount, and subject to such regulations and restrictions as by the resolution of the said Board shall be expressed and imposed.

All calculations necessary for the purpose of ascertaining the profits to be made by the actuary or such persons as the directors should appoint (91). The payments to which the several funds are liable defined (92). The Fire Ins. Fund and the Proprietors Fund only liable for fire losses (93). The Fire Ins. Fund primarily, and the Proprietors Fund only when former fund exhausted (94). Same as to 3rd and 4th Funds, in relation to their respective purposes (95, 6). Sums advanced by the Proprietors Fund to any other Fund to be repaid with int. (97). If Proprietors Fund be reduced below £40,000, calls may be made (98) [see 1857]. Usual powers for investing, borrowing, etc. (99-103) [see 1859 and 1864]. Directors may sell any portion of the 10,000 shares not orig. allotted (104). May also purchase shares from proprietors (106). As to creation of new shares (113). Directors to certify in writing their approval or rejection of persons desirous to become proprietors (122). In case of dissolution, funds and property, after providing for liabilities, to be divided among proprietors (138). Remuneration of directors to be voted by ann. meeting (153). Director's qualification 100 shares (165). Persons proposing to dispose of shares must give notice of intended purchaser to the directors (202). No proprietor to hold more than 100 shares (217) [see 1857, 1859]. Proprietors paying under execution may recover from other proprietors (226). All disputes to be referred to arbitration (230).

1840.—There was enacted 3 Vict. c. xx.—*An Act to Enable the "Protestant Dissenters and General Life and Fire Ins. Co." to sue and be sued in the name of the Chairman, Deputy-Chairman, or any one of the Directors, or of the Sec. of the said Co.* There is nothing special calling for notice here.

1843.—It was announced at the ann. meeting this year that an "increased dividend" had been paid to the proprietors "on the cap. advanced for public protection against contingencies"; and to life pol.-holders of the parti. class a bonus of 12 p.c. on the gross prems. paid was declared; "with a further prem. of 10½ p.c." to "ministerial assurers"—making to such of them "as were assured under T. No. 2 a total bonus of no less than 22½ p.c."

The "Ministers Fund" at one time bid fair to become quite an important feature in the operations of the Co.; but there were real practical difficulties in its administration; and so it gradually fell out of "special mention" in the prospectuses of the Co. The intention was especially praiseworthy.

1846.—Various clauses of the D. of Sett. were amended, viz. clauses

82. The Fire Ins. Fund to be valued every 5th year (after 1843), and of any surplus shown one-tenth to go to Ministers Fund, and the other nine-tenths to "Proprietors Fund." The same as to First Life Assu. Fund (83). As to Second Life Assu. Fund, quinquennial valuations; one-tenth to Ministers Fund; three-tenths to Proprietors Fund; and remaining six-tenths to be applied to benefit of pol.-holders (84). The surplus of Proprietors Fund to be quinquennially ascertained, and divided rateably either annually or otherwise thereafter (85). The 102nd clause was amended so as to enable the directors to lend money on personal security.

1847.—There was enacted 10 Vict. c. l.—*An Act to change the name of "The Protestant Dissenters and Gen. Life and Fire Ins. Co." to the "Gen. Life and Fire Assu. Co." and to extend to the Co., by its new name, the Powers of the Act enabling the Co. to sue and be sued in the name of the Chairman, Deputy-Chairman, or any one of the Directors, or of the Sec. of the Co.*

1852.—Sec. 84 of Deed was again amended. After carrying one-tenth of quinquennial profits to Ministers Fund, four-fifths of remainder were to be credited to parti. pol., and the remaining one-fifth carried to the Proprietors Fund.

1854.—The Rep. presented at the 15th ann. meeting of the proprietors this year

contained the following: The fire prems. of the preceding year had been £10,213 [the duty collected being £11,050], being rather less than in the preceding year. The fire losses had been £5843—being £1890 less than in the preceding year. In the life depart. 146 pol. had been issued, viz. 89 on the parti., and 57 on the non-parti. scale. The total assets of the Co. were £197,876. Regarding the special features of the Co., the following details were given:

Fire.—The ins. on colleges, chapels, and other property belonging to various Dissenting bodies have steadily advanced during the past year. Since the formation of the Co. . . . 1483 pol. insuring £1,409,578 have been issued; whilst 986 pol. insuring £295,906 have been granted on the residences and furniture of their ministers.

Life.— . . . Twelve of the Co.'s pol. assuring £4499 were on the lives of ministers—making the gross amount of such assurances up to the 31 Dec. last £164,987. . . . One of the most gratifying results of their operations has been the increased attention directed to ministerial insurances. . . .

1857.—Amendments were made in Deed as to investments; but, more important, the following new clause in lieu of corresponding clause in orig. Deed:

98. That in case the "Proprietors Fund" shall at any time be reduced below the sum of £25, then, and as often as the same shall happen, the Board of Directors shall have the power to restore it to any sum which they in their discretion may deem expedient, and for the interest of the Co.—not exceeding £50,000, either by making a call upon the proprietors, or by raising the same by loan or mortgage, in the manner and under the powers contained in the said D. of Sett.

The 115th clause was amended to correspond; and clause 217 was amended to enable Trustees already holding 100 shares to hold further shares jointly with others not already holding 100 shares.

The Co. this year took over the bus. of the *British Empire* Mut. Fire (founded in 1848), and also the connexions of the *British Amicable* Life, which had been projected and founded this same year.

1859.—The 209th clause of the D. of Sett. as to shares of deceased proprietors was amended; and the 217th, increasing the number of shares to be held by any one proprietor up to 500. The 14th clause (as to voting) was altered, viz. persons holding 10 shares and up to 30 to have 1 vote; and an add. vote in respect of each 20 shares beyond. Further powers as to investments (clause 102) given.

1860.—The case of *Oldfield v. Price*, before the Courts this year, on a pol. of this Co., gave rise to a new point in practice as follows: When a fire occurs, its insurers, it would seem, have the right to enter upon the premises for the purpose of ascertaining the damage, and, where it is necessary, to retain possession of them for a reasonable time; but if they retain possession for an unreasonable time, they will be liable for damages to the insured. (2 F. and F. 81.)

1864.—Further powers as to investments under clause 102 taken.

1872.—At the quinquennial *Life* valuation made as from the 31st Dec. this year, the following facts appeared. The total number of parti. pol. in force was 5224, insuring £1,741,650; the non-parti. pol. 2606, insuring £782,665; grand total, 7830 pol., ins. £2,524,315,—to be reduced by 113 re-insurance pol. ins. £153,934; and there were 11 annu. pol. The net liability under these pol. was £344,615; while the Life Fund stood at £383,349—showing a surplus of £38,734.

The principles upon which the valuations are made are determined by the directors. The T. of Mort. used on this occasion were the *Equitable Experience* T. (1834); and for joint lives the *Carlisle* T. The rate of int. assumed was 4 p.c. The whole of the loading in excess of the net prem. was reserved for future expenses. When a bonus is applied in reduction of prem., it is for 5 years only.

The average rate of int. at which the Life Fund was then invested was £4.502 p.c. The Co. has no T. of minimum values for surrender of pol. The sum allowed is a proportion of the reserved value of each pol. varying with the age of the insured. Extra prems. for residence out of Europe are charged according to climate. Pol. on unhealthy lives are valued at the office age, not at the actual age.

The Fire Department stood as follows at this date: prems., less re-insurances, £44,880; losses (less re-insurances), £21,314. After carrying £10,000 to Proprietors Fund, the net bal. of Fire Fund was £1480.

The amount of shareholders cap. stood at £50,000 in the balance-sheet.

1874.—Mr. Alderman Challis, who had been for many years Chairman of the Co., and who was widely respected, died this year.

1876.—The Rep. for this year furnished the following details: New life pol. issued, 1265; assuring the sum of £374,284; producing in new ann. prems. £12,102; and single prems. £237; total life prem. income, £94,236; assets at 31st Dec. 1876, £602,334; fire prem. income, £62,375; fire losses, £28,488; total income from all sources, £183,132.

1877.—The quinquennial valuation as at the close of this year is not yet completed.

The first Sec. of the Co. was Dr. Thos. Price, who retained that position down to his death in 1867; he was succeeded by the present Sec., Mr. Geo. Scott Freeman, in 1868. The Assistant Sec. is Mr. Champness. Mr. R. Wilson is the Actuary; Fire Manager, Mr. Geo. Bone.

Table showing the leading Financial Features of the Life Department of the Co. at each quinquennial period in its history :

Year.	No. of New Pol. issued in quinquennium.	Insuring a total of	Total Pol. in force at end of Year.	Sums Insured with Bonus additions.	Life and Annuity Funds at same date.	Surplus Distributed on Life Pol.	Total Claims Paid up to date.
1842	1066	£ 449,518	.....	£ 378,468	£ 20,008	£ 3,896	7,550
1847	1006	367,065	.....	618,158	70,864	9,425	30,307
1852	809	285,448	.....	710,854	119,082	14,004	71,472
1857	707	217,326	.....	763,132	100,901	6,921	131,430
1862	2209	538,386	3584	1,080,016	217,878	22,542	200,391
1867	3616	1,015,950	5918	1,726,189	287,945	19,404	321,630
1872	4220	1,544,145	7830	2,524,315	383,349	38,734	497,397
1877	5307	1,856,868	10286	3,291,928	530,310	49,321	777,907

GENERAL LIFE AND INVALID ASSU. ASSO., "For Assuring Provision in Sickness, in Age, and at Death; on Lives and Survivorships; for Granting Annu., Loans, and Endow. for Children; and for the Purchase of Immediate and Rev. Property."—Founded in 1839, with an authorized cap. of £500,000, in 25,000 shares of £20. Among the "Hon. Presidents" were a number of distinguished public men; while on the Board of Directors was the Hon. Wm. Bingham Baring, M.P., and several other well-known persons. The prosp. said :

Experience has proved that investments in life assu. cos. can be made both with security and advantage; indeed the gains of the earlier asso. have, in many instances, far exceeded all reasonable calculation; even in times when life ins. was almost entirely confined to individuals whose transactions in life compelled them to resort to it, and thence was looked upon as a tax rather than a public advantage.

Of late years, however, the great advantages to be derived from life assu. have attracted the attention of a discerning public, and instead of being considered, as heretofore, a tax, it has become in the estimation of every prudent person, whose family principally depends on his exertions, a necessary step for their future well-being; while the numerous benefits accruing therefrom have been the cause of the enormous increase of the system.

The health and longevity of the assured being of importance to assu. asso., as well as to themselves, every opportunity ought to be afforded, that may tend not only to the maintenance, but also to the early restoration of health: for when the mind is disturbed in consequence of inability to attend to the avocations of life, and by want of a suitable provision in time of sickness, death does often take place sooner than it would were such emergency adequately provided for. *Hence the value of the present Assu.*

To the middle classes of society an estab. of this kind must obviously be a desideratum, as it will place them in a position to reap advantages far beyond those which have been hitherto derived by persons in the humbler walks of life from Benefit Sos.

Provision in age is also a subject of serious import, both to the Asso. and the insured; to the latter the certainty of a provision in the decline of life will be an increasing source of satisfaction; whilst to the former, the longer the life the greater will be the advantage arising from the pol.

The sickness portion of the scheme—and which might be coupled with life ins. or not at the option of the insured—we shall speak of in more detail under **HEALTH INS.** The other features of the Co. were the following :

Pol. from £20 to £4000 were to be issued; and there was a scale of monthly, quarterly, and half-yearly prems. which brought the scheme down to that of *Industrial Ins.*

Half-credit was given for prems. for the first 5 years; there were also *increasing* and *decreasing* scales; deferred annu. were also granted.

In the event of the insured being unable to keep up the pol., a decreased pol. in relation to the prems. previously paid would be granted.

It was proposed to estab. *local boards.*

We do not trace the future of this enterprise. The Act. was Mr. J. Rowbotham.

GENERAL LIVE STOCK INS. Co.—Prov. regis. 8 Dec. 1852, but never completely regis. ; although, as will be seen, another Co. with a like name was founded in the following year.

GENERAL LIVE STOCK INS. Co.—Founded in 1853, with an authorized cap. of £25,000, in 25,000 shares of £1, to be fully paid up (power to increase to £100,000). Int. at the rate of 5 p.c. on the cap. paid and on the reserved fund was to be paid in priority to the shareholders; and a further 5 p.c. set apart in view of forming a reserved fund of £25,000, after which the whole of the profits were to be divided between shareholders and pol.-holders equally. There never were any profits. "The responsibility of each shareholder limited by a clause in the pol. to the amount of his shares."

The founder of the Co. was Sir Henry C. Oxenden, Bart., who was its "Travelling Director." The bus. features of the Co. contained nothing special beyond those already stated. The board of directors was a very influential one.

The bus. of the Co. was carried on until 1857, when the same was trans. to the *London and Country Hail and Cattle*; but for the shareholders, notwithstanding the "limitation clause," the winding up was most disastrous, extending over many years.

The Act. was Mr. Edward Ryley; the Sec. Mr. Charles Cadogan.

GENERAL LOAN AND ENDOWMENT CO.—Projected in 1847 by Mr. William Cole Long, Solicitor ; but it made no permanent progress.

GENERAL MARINE INS. CO.—Founded in 1839, but appears to have passed out of sight, in common with many other marine ins. cos., without leaving any recorded history. [*? General Maritime.*]

GENERAL MARINE INS. CO. LIM.—Founded in Lond. in 1870, with an authorized cap. of £200,000, in 20,000 shares of £10. The prosp. said :

It is generally admitted that the market for covering sea risks is not adequate to the requirements of marine ins. now so universally adopted and appreciated. Thus, when large policies are required, a considerable amount of bus. is often sent to the Continent.

It is considered that there is now a good opening for the estab. of a new Marine Ins. Co., constructed on a solid basis, and that its operations, carried on with caution and economy, will be made highly remunerative to the shareholders. . . .

The directors are in treaty with an underwriter of great experience, and considerable support has already been offered from influential sources.

The board, although containing a few good names, was weak, and we believe the Co. was never fully floated. The Sec. was Mr. Charles Waite.

GENERAL MARITIME ASSU. CO.—Founded in 1839, with an authorized cap. of £1,000,000, in 10,000 shares of £100. The bus. of the Co. was commenced on 20 May, 1839 ; the Deed of Sett. was dated 23 April, 1840. It appears that about three-fourths of the cap. was subs. ; but the affairs of the Co. did not flourish. There was ultimately £25 per share called up ; but in the process of obtaining this money, shares had been forfeited, so that about 1848, when the Co. ceased to underwrite, there were but 5000 out of 7500 shares originally allotted existing, held by a comparatively small number of persons. The directors, or some of them, remained in office for the purpose of closing up the affairs. Towards the call of £10 per share made 29 Sept. 1847, and falling due on 30 Dec. that year, hardly any response was given.

The Co. ultimately became involved in law proceedings which took the following shape : It had issued a pol. headed with its title, stating the capital to be one million, and in which, amongst other things, it was "declared and agreed by and between the Co. and the assured that the cap. stock and funds of the Co. should alone be liable to answer and make good all claims and demands whatsoever, under or by virtue of the said pol. ; and that no proprietor of the Co. should be in any wise subject or liable to any claims or demands, nor be in anywise charged by reason of the said pol. beyond the amount of his share or shares in the cap. stock of the Co. ; it being one of the original and fundamental principles of the said Co. that the responsibility of the individual proprietors should in all cases, and under all circumstances, be limited to their respective shares in the said cap. stock." The pol. purported to be made between the insured and the Co., and was signed by three directors.

An action was brought upon the pol. against 5 of the shareholders of the Co., none of whom, however, signed the pol. The declaration alleged that the defendants were shareholders in the Co., and after setting out the pol., averred payment of the prem., that the defts. then became insurers to the plt., and duly inscribed the pol. as such insurers, that the plt. was interested, that a loss had occurred, and that although the cap. stock and funds of the Co. had been from the time of the making of the pol., and still were, sufficient to pay the plt., yet the defts. had not paid.

To this declaration one of the defts. put in a demurrer, principally on the ground that the declaration showed no joint contract by the defts., and that the action should have been against each one severally in respect of the shares held by him. By the demurrer, the averments of a promise to pay by all the defts., and of sufficiency of funds, were admitted to be true ; and it was held, first by the Court of Q.B., and afterwards on appeal, that the contract as stated in the declaration, and admitted by the demurrer, was a joint contract by all the defts. to pay the full amount of the plts. claim, and the demurrer was overruled.

Another of the defts. pleaded *non assumpsit* ("he did not promise"), and traversed the averment that there were sufficient funds. The question as to liability therefore again arose, and had to be decided, not as before, on the supposition that the facts averred in the declaration were true, but on the evidence adduced on the trial. This evidence showed that none of the defts. signed the pol., that one of them only was a director of the Co., *that all the subs. cap. had been expended, but that the whole of the nominal cap. had not been subscribed.* Lord Campbell, who tried the cause, directed the jury that there was a contract binding on the defendants jointly, and that although the Co. had no funds in hand, yet, in point of law, they had available cap., stock, and funds ; for more than sufficient to pay the plt. remained not called up.

On a bill of exceptions, it was decided by five judges against two that there was no evidence of a joint contract by the defts. to pay the plt., and a *venire de novo* (writ for a second trial) was awarded. We do not find that the matter ever came before the Courts again.

This case—known in the law-books as *Hallett v. Dowdall* and others (1852)—illustrates the perils of shareholders under the old asso., or unlimited liability, law. The Sec. of the Co. was Mr. R. M. Raches.

GENERAL MEETINGS.—A general meeting of every Co. regis. under the Cos. Act, 1862, is required to be held once at least in every year (sec. 49). By the Cos. Act, 1867 (sec. 39), the first general meeting of every Co. shall be held within four months of the registration of memorandum of asso.—in default penalties, on directors, manager, and subscribers to memorandum of asso.

With respect to the bus. to be transacted at a gen. meeting, and the powers of directors and shareholders at, each Co. is governed in the main by the provisions of its own deed or art. of asso. It has to be remembered that while the powers of the directors are by many deeds very wide, they must still be exercised in regard to the fiduciary position they occupy. They have no rights which should be exercised other than for the common good of the asso. We may with advantage hear what Mr. Bunyon has to say hereon, generally (*Law of Life Assu.*, p. 148) :

5. The mode of taking the sense of the main body in such Cos. is provided for by appointing that gen. meetings shall be held at stated periods; and extraordinary meetings upon any emergency, or when any important step appertaining to the constitution of the Co. is to be taken. When the latter are to be held, notice is given to the members, not only of the time and place, but of the object of the meeting. . . . The acts and resolutions of such meetings must be strictly limited to the execution of the powers given to them by the deed. For it is said that the members of such a Co. must be strictly held to the letter of their contract with each other; otherwise, when it is proposed to deal with its affairs in pursuance of resolutions passed at such gen. or extraordinary meetings, many of the partners, who may be unwilling to attend, may find themselves bound by proceedings directly opposed to the terms upon which they have entered into the partnership. Neither is it sufficient that a resolution should be passed by a gen. or even an extraordinary gen. meeting: the very form prescribed by the deed must be followed. Thus, when it directed that at ordin. gen. meetings regulations might be made consistent with the existing constitution of the Co., and provision was made for fundamental changes by extraordinary meetings convened with certain prescribed formalities, and particularly with notice of the specific object of the meeting to each shareholder, a resolution passed by an ordin. gen. meeting, making a radical change, by altering the amount of the cap. of the Co., was held to be invalid; and the case was not altered by the fact that the resolution had been previously sanctioned by an extraordinary meeting, which had, however, been convened without the necessary notice having been given [*Lawe's case*]. In such a case the Court thought that the partnership could not be bound by what took place at a meeting which was ostensibly called for a purpose different from that which was the conclusion to which they came [*Ex parte Morgan*].

See EXTRAORDINARY RESOLUTION; SPECIAL RESOLUTION.

GENERAL MORTGAGE AND SECURITIES INS. CO. LIM.—Founded in 1872, with an authorized cap. of £250,000, in 50,000 shares of £5; “a portion of the paid-up cap. will be immediately invested in such securities as the directors may deem most advisable for the Co.” The prosp. said :

This Co. is estab. for Insuring to Mortgagees, and other owners of Moneys, Stocks, or Funds, charged by way of Mortgage, or otherwise upon Real or Personal Property, Life Interests, Reversions, or other partial interests therein, the due payment of their principal, or interest, or both, *notwithstanding the insufficiency of their securities, as to value or otherwise, as the case may be*; thereby giving, in consideration of a moderate ann. or other prem., a perfect security against any loss in the event of the mortgaged property not realizing upon sale, by reason of the risk insured against, the amounts so charged thereon.

Capitalists, it is well known, with a view of obtaining a higher rate of int. than that yielded by the Gov. Funds, are desirous of investing money on mortgage, but for which it is alleged securities cannot be found. This latter is not the fact; numbers are daily offering, far exceeding in realizable value, the sums proposed to be lent, with a sufficient margin for security. The truth is that capitalists, from timidity, or want of experience, are not willing to lend the amount sought; and borrowers are not content to accept the sums offered—hence the difficulty of obtaining loans on mortgage, and the necessity for the estab. of a Co. such as this, by which the difficulties to both parties are obviated: a larger amount obtained by the borrower, and a better security to the lender.

Solicitors, Trustees, Guardians, and Executors, will feel relieved from the responsibility attached to the investment of funds entrusted to their care, when they can have the guarantee of this Co. in add. to the security immediately offered,—and consequently will resort to it.

Annuity and others entitled to charges upon property under wills, will find, in the pol. to be granted by this Co., the means of securing the amount of their charges.

It was further stated that, with a view to render the operations of the Co. more useful to the insured therein, and at the same time to increase the value of their mortgage securities, by rendering them readily convertible, the Co., “where they may see fit, either for meeting any sudden emergency, or pending the unexpired term after notice has been given to pay off, or during the time necessary for realization of a mortgage, arrange for an advance to the pol.-holders of the sum insured.”

It was further believed that the estab. of the Co. would “prevent numerous frauds and misappropriations. In many instances, those who repose trust in their agents, and suppose that their money has been duly invested on mortgage—from the fact of a sum representing the interest being regularly paid to them—find to their sorrow, when they require the custody or inspection of the deeds, that their money has been applied to some other purpose, and irretrievably lost; *trustees in all such cases have to make good the loss.*”

The prosp. made out an exceedingly good case; the “cast” upon its face was eminently respectable; but we have heard nothing of the operations of the Co. since. It prob. required one practical mind to get the scheme into good working. See MORTGAGE INS.

The founder of the Co. was Mr. Topping; its Sec. Mr. Henry Nottingham.

GENERAL NAUTICAL INS. ASSO.—Founded at South Shields in 1871, for the Ins. of Sailing Vessels on the mut. principle.

GENERAL NAUTICAL INS. ASSO. UNLIM.—Founded in 1876 at South Shields, for the Mut. Ins. of the Ships and shares of ships of its members.

GENERAL OFFICE IN TALBOT COURT, GRACECHURCH STREET.—Founded in 1711, for Birth, Marriage, and Service Ins. [BIRTH INS.] [GAMBLING.] [MARRIAGE INS.] [SERVICE INS.]

GENERAL POL. (Fire).—A "General" fire pol. in the U.K. is equivalent to a "Blanket pol." in the U.S. It is *there*, indeed, a "Floater," with a limited range. It covers several items in one locality, as on "Buildings, Stock and Fixtures," situated at —; or on "Pork, flour, and grain, in his warehouse, located, etc."—instead of a specific sum on each. When the statutes regulating the collection of the per-centage duty on Fire Ins. in the U.K. were in force, it was altogether illegal to issue "general pol."; and now the practice, otherwise than in exceptional cases, is regarded as contrary to sound under-writing. [AVERAGE POL. (Fire).] [BLANKET POL.] [EXCESS POL.] [FLOATING INS. POL. (Fire).] [SPECIFIC INS. POL. (Fire).]

GENERAL PROVIDENT ASSU. CO. (No. 1).—Founded in 1862, with an authorized cap. of £50,000 (with power to increase to £1,000,000), for the purpose of transacting "every description of Life Assu."; with Endowments, Annu., Loans; and an Industrial Department, with weekly, monthly, and quarterly premis. The promoter of the Co. was Mr. H. Walter Wheeler.

In 1864 the Co. was united with the *Confident Life* (founded 1856), and the Co. was adv. as the *General Provident and Confident*. The prosp. then said:

The Directors of this Co., in framing its T., have endeavoured to carry out the following objects:—To adapt to the wants, and bring within the means of the trading and industrious classes, the most valuable features of Life Assu., as well as to transact the usual bus. of Assu. Cos. Sick Policies granted guaranteeing from 5s. to £1 per week during sickness.

Mr. G. W. Gidley Lake now became Manager.

In 1865 the united bus. was trans to the *General Provident* (No. 2).

GENERAL PROVIDENT ASSU. CO., LIM. (called No. 2 in this work).—Founded 1865, with an authorized cap. of £500,000, in 50,000 shares of £10. The Co. was first incorp. under the designation of "The General Homœopathic Provident Assu. Co. Lim."; but subsequently altered its name.

It took over the bus. of the united *Gen. Provident and Confident* at or soon after its foundation.

In 1866 its directors issued a prospectus headed with "Second issue of 10,000 shares" in red letters, with Mr. Thomas Hattersley, Lord Teynham, the Rev. Robert Maguire, and others as directors, which contained the statement that the first issue of 10,000 shares had been fully subscribed, and the directors had resolved on a second issue, which they anticipated would be quite sufficient for the requirements of the association. It subsequently appeared that, although 10,000 shares had been applied for, only 7500 had been taken up to the 18th of Feb. 1866, 2500 having been cancelled for non-payment of the deposit; and of these cancelled shares of the first issue some, which were still standing in the name of Mr. Hattersley, the director, and were numbered 7755 to 7804, were allotted to the plaintiff.

Upon this state of facts arose the case of *Green v. The Gen. Provident Assu. Co.* (before the Courts in 1868)—the plt. Green applying to have his shares cancelled on the grounds stated. But V. C. Sir J. Stuart, without calling on the counsel for the defts., said that the plt.'s case had failed. From the evidence it appeared that there had been a first issue of 10,000 shares; that that issue had not been merely nominal, but that three-fourths were effective subscriptions, which, considering all the circumstances, was a very fair amount. He considered that the prospectus, on the whole, contained a fair representation of the state of the Co. In dismissing the bill with costs, the Vice-Chancellor remarked that there had, no doubt, been some very strong observations by Vice-Chancellor Kindersley (indorsed by the Court of Appeal and the House of Lords), in which every one must concur, as to the duty of directors, in issuing a prosp., to state everything with strict and scrupulous honesty; but, he said, there was nothing to justify the notion that where the statements had been fair and honest, shareholders were at liberty to repudiate the contracts they had entered into.

The scheme as perfected at the close of 1865 embodied (1) a Special Temperance Section; (2) Special Homœopathic Section; (3) Special Working Man's Section. The particular advantages offered to these respective sections we are unable to trace. "Deposit notes issued for sums of £10 and upwards, upon which interest is allowed at the rate of 5 p.c. p.a." The staff was very extended—1. Gen. Manager, Hubert Geo. Grist, F.S.S.; 2. Homœopathic Referee (Medical), Jacob Dixon, M.D.; 3. Consulting Actuary, W. S. B. Woolhouse, Esq., F.R.A.S.; 4. Resident Actuary, Geo. S. Horsnail, Esq., A.I.A.

The man. appeared overweighted with ability, and bus. did not progress favourably. Mr. Thos. Heywood had now become Gen. Man. In 1867 a Shareholders' Committee was sitting. On the 20th Sept. same year, an extraordinary general meeting was held, to receive the Rep. of this Committee. At this meeting there were represented 4301 shares, or 869 personal votes, and by proxy 1346 shares, or 269 votes. The resolutions arrived at, with a few dissentient voices, were—

I. That the proceedings recently taken by five shareholders to wind up the Co. are opposed alike

to the wishes of this meeting and the great body of shareholders, as well as to the interests of all concerned; and that the Co. do oppose such proposed winding-up by the most energetic measures.

II. That this meeting, having heard a statement of the affairs of the Co., considers that great fault is chargeable on those members of the Board who recommended the last dividend, so great a proportion of which was absorbed by nominally paid-up shares.

III. That in order more fully to represent the shareholders, two gentlemen from the general body be nominated to seats at the Board; and this Committee unite in recommending as one of the two, Mr. Horatio N. Hunt, who has materially aided all their deliberations, and is a large shareholder.

IV. That as there is at present the sum of £21,000 due to the Co. from arrears of calls, this Committee most earnestly entreats the shareholders, in their own interests, to pay up these arrears at once; inasmuch as the Committee find the Co. is not in that state of inextricable confusion that has been stated. The sum of £10,000 in hand immediately would give the directors the required help, which, with the economy of management that has been already inaugurated, would, there is every reason to believe, enable the Co. to be carried on successfully.

V. That in comparing past "mismanagement," and wilful extravagance with present economy, this meeting records its approbation of the conduct of the present Manager and Secretary of the Co.; and acknowledges the facilities afforded by those officials for examining the books and position of the Co.

"The meeting strongly expressed its condemnation of the last two circulars especially reflecting on the conduct and capabilities of the present Manager, and considered that he deserved their warmest sympathy and support."

A circular from the Gen. Man. under date 21 Sept. this year, contained the following para.:

If you have paid your shares up to £5, you are kindly requested at the present juncture to make a further advance of cash to the Co., to assist in clearing pressing demands, for whatever sum you may be willing so to advance. You may either receive the Co.'s acceptance, payable at 6, 12, 18, or 24 months, or deposit notes for the same, or other periods, at your own option. Ten p.c. interest, payable half-yearly, will be allowed for these advances.

Should you respond to this application in the same spirit as the shareholders of Plymouth have done, they having promised to raise more than £3000, the Co. will be at once relieved from pressure, and be indebted mainly to its own shareholders, who by this means will secure to themselves a valuable property.

Should you be in arrear of call, you are requested to pay the same without delay, and thus remove the difficulties you have been partially instrumental in creating.

The above suggestions are from the shareholders themselves, who have taken up this matter with spirit, and are determined to carry it through. As time is of the utmost importance, permit me to hope that by the 25th inst. I shall receive a favourable reply, stating how much you will advance, and what acknowledgment you desire for the same; but in the case of arrears, be kind enough to remit by return of post.

In 1868 the bus. of the Co. was trans. to the *Etna*—which was simply jumping from the frying pan, etc.

GENERAL PROVINCIAL LIFE ASSU. CO. LIM.—Founded at Nottingham in 1864, with an authorized cap. of £100,000 (power to increase to 1 million), of which but an exceedingly small portion was subscribed. The special features of this Co. were quite remarkable, viz. "Pol. were indisputable and indefeasible on any ground whatever;" "payable during life without extra prem.;" "made payable to order, rendering them negotiable securities;" "not liable to be forfeited;" "one life may be substituted for another." The Co. also undertook to issue Debt Guarantee Pol.; Partnership and Trustee Pol.; Initiatory or early Assu. Pol.; Education Pol.; Student's Pol.; "Clergymen and ministers of all denominations ins. at reduced rates."

The Co. trans. a small bus., and in 1867 its connexions were trans. to the *Whittington*.

In the winding-up the affairs of the Co. the following case arose—known in the law-books as *Daintree's Claim* (1870):

This was a summons adjourned from Chambers for the purpose of obtaining the decision of the Court with regard to the validity of a pol. of ins. for £5000 effected upon the life of Mrs. Daintree. Mr. Daintree, it appeared, had married a young lady, who possessed a life interest in about £2000 a year, and the property upon her death would go (by the will of her father) immediately to her children, leaving her husband, so far as her property was concerned, unprovided for. It was also not in dispute that her father had died at 53, and her mother at 34, though it was doubtful whether in either case death was attributable to hereditary disease. There was, however, proof that two of her sisters and one brother had died of consumption. In the autumn of 1865, Mr. Daintree became anxious to insure the life of his wife for £20,000, and not less than eight applications were made to various offices and declined, but the *Hercules* agreed to accept for £3500 upon a considerably increased premium. In this state of things the *General Provincial Co.*, which had only commenced bus. a short time before, was applied to in Nov. 1865, and accepted an ins. for £5000, the Secretary expressing his willingness to increase the risk to £10,000. The nominal cap. of the Co. was £100,000, but at this time it had only about 12 subs., and for a very small sum, and the whole of the available assets in May, 1866, were £477, with a power of calling up £20 more. Mr. Daintree left the whole arrangement of the ins. to a Mr. Robinson, an ins. agent residing at St. Ives, in Huntingdonshire, and he it was who filled up the form of proposal forwarded to this Co. One of the questions asked was, "Have you ever been proposed to or declined by any other office? If so, name it." And opposite this Mr. Robinson filled in, "Have been and am still in correspondence with other offices, as the amount to be insured is large." On the part of the official liquidator it was contended that Mr. Robinson having full knowledge at the time that at least eight offices had refused the life, this was a suppression of facts sufficient to vitiate the contract.

The Vice-Chancellor (Malins) said this was an extraordinary case in many respects, and it was difficult to say upon which side there was the greatest want of sense. He could not, however, decide the case upon want of sense in the parties, but upon the general principles of the Court. It appeared that this lady, whose life was insured by her husband, had lost two sisters and a brother by consumption, and it was not disputed that her life was such as would not be generally received by an ins. co. except upon an advance of premium. Various offices had been applied to, and all had declined the pol. except the *Hercules*. In this state of things the present office was applied to. They had only recently commenced bus. There were only £500 subscribed, with power to call up £20 more, and yet in this position they were prepared to accept pol. from all who might come forward. It was disreputable that such a Co. should have pretended to carry on bus., and it was not surprising that they should have been willing to accept any pol. that was offered. Mr. Daintree, it appeared, had left the management of this bus. to Mr. Robinson, and it was to be hoped that in future Mr. Robinson would take care not to betray the interests of his employers by departing from the truth in the manner he had done in this case. When he applied to the Co. first, telling them that he could introduce bus. to them if allowed the usual commission and credit, he did not tell them that the life he proposed had actually then been refused by eight offices. It was not absolutely necessary that he should have done so at first, but when he filled up the answers to the questions put by the office in the usual form, it was his duty to have told the truth. When he stated "I have been and still am corresponding with other offices, as the amount is large," would it be possible to call that a statement that he had applied to and been actually refused by 8 offices? It was not always necessary to use express words in order to tell a falsehood, but a statement was clearly intended to be conveyed that there had been no refusal by other offices. He was bound to have informed the office of the truth, and that would have led to inquiry at the other offices where the pol. had been refused. The rule of this Court was, as he had expressed himself in the case of *Overend, Gurney, & Co.*, "that allowing another to act on the belief of facts which you know to be untrue is fraud." That observation exactly applied here. His Honour was at first under the impression that there was enough to have put the office upon inquiry, but upon a review of the facts he felt satisfied that the statements were made for the express purpose of evading the truth. Probably, if it had been the case of a Co. with a larger amount of bus., they would have been more careful to make further inquiries, but they were too eager to accept any bus. offered them. That, however, was no excuse for the misrepresentation. This was a material misrepresentation or suppression made by an agent which the principal ought never to have allowed. It was Mr. Daintree's duty to have seen that the answers made by his agent were true. In this duty he had failed, and he was bound to come to the conclusion that there was a material suppression of facts which ought to have been told to the Co., and which might have influenced their conduct. He should, therefore, disallow the claim, but without ordering the claimant to pay costs.

GENERAL RAILWAY SUPERANNUATION FUND AND WIDOWS FUND.—See RAILWAY (clearing-house) PROVIDENT FUNDS.

GENERAL REGISTRATION ACTS.—The Acts for regis. births, marriages, and deaths in the U.K., and known under this title, are:

England and Wales.—6 & 7 Wm. IV. c. 86 (1836)—came into operation 1 Jan. 1837.

Scotland.—17 & 18 Vict. c. 80 (1854)—came into operation 1 Jan. 1855.

Ireland.—26 & 27 Vict. c. 11 (1863)—came into operation 1 Jan. 1864. This Act relates to births and deaths only—not to marriages.

Each of these has been amended or affected by later Acts—more especially by the 37 & 38 Vict. c. 88 (1874), and these will all be reviewed in detail under REGISTRATION OF BIRTHS, DEATHS, AND MARRIAGES. [PARISH REGIS.]

GENERAL REMITTANCE AND INS. OF DEBTS.—A Co. under this title was projected about 1719 or 1720, but what progress it made we cannot now discover. There was also a Co. or project called "Stogdon's Remittances," but whether it referred to this, or some other enterprise, remains now a mystery.

GENERAL REVERSIONARY AND INVESTMENT CO.—Founded in Lond. in 1836, for the purchase of, or loans upon Reversions, contingent or absolute, Policies of Assu. and Life Interests in possession or expectation; also for granting, or buying immediate, deferred, or survivorship Annuities; and generally for the Investment of capital in all securities whose continuance or realization is dependent upon human existence. The capital of the Co. is £500,000, in 5000 shares of £100, fully paid, "with power to raise such further sums as the demands of profitable investment may render advantageous by the issue of new shares, or in such other manner as may be decided upon at a special general meeting called for that purpose." We further quote the orig. prospectus under head of REVERSIONARY INTERESTS.

The D. of Sett. of the Co. was dated 18 Nov. 1836, and was made between (amongst others) John Richards, Esq., the Rt. Hon. Sir Gore Ouseley, Bart., the Rt. Hon. Thomas Peregrine Courtenay, Bart. [see FRIENDLY SOS., HIST. OF, 1822], the Rt. Hon. Randal Edward Plunkett, and Sir James MacGrigor, Bart.

In 1851 the Co. obtained a Special Act of Parl.—14 & 15 Vict. c. cxxx.—*An Act for*

better enabling the General Reversionary and Investment Co. to sue and be sued; and to facilitate the holding and transfer of the property of the Co. by and from the present and future trustees thereof; and for other purposes. This Act recites in its preamble, "Whereas the public has been greatly benefited by the formation of the said Gen. Rev. and Invest. Co., and a considerable revenue is derived by H. M. therefrom: and whereas the Co. has been very successful, and the paid-up cap. has very much increased in value, and the same now amounts to upwards of the sum of £540,000." And it is further recited that it would be greatly for the benefit of the Co. and the public at large that the Co. should be able to sue and be sued, etc. By sec. 21 of this Act a special scale of stamp duty on enrolment of annu. memorials, etc., was instituted.

1871.—A statement of the accounts of this Co., as at the end of this year, lodged with the Board of Trade under the impression (erroneous) that the Life Assu. Cos. Act, 1870, applied to its affairs, furnished the following details: Invested on mortgages in the U.K. £101,866; on life interests £185,359; on reversions £246,800; cash on deposit £75,000; smaller investments including bal. at bankers £56,463. On the other side was charged the cap. £500,000; sum reserved for risk on uninsured lives £30,315; a few other items aggregating to nearly £2000; leaving a bal. of £133,204 in favour of the Co. The net liability under annu. contracts was £17,021.

The affairs of this Co. have been administered for many years with masterly ability by its able Actuary, Mr. Wm. Barwick Hodge—a name held in the highest estimation in the Ins. profession.

GENERAL SAFE-GUARD INS. CO.—This was the name assumed by some fraudulent operators in order to carry out a scheme which will be spoken of in more detail under INS. FRAUDS, 1864.

GENERAL SALVAGE CO.—By 3 & 4 Vict. c. cxv. (*Local and Personal*), power was given to this Co. to purchase certain letters patent; but what the immediate peculiarity or purpose of these was, is not stated in the abstract we have at hand. We shall hope under SALVAGE to furnish more complete details.

GENERAL SHIP.—A ship employed by the owners on a particular voyage, in the conveyance of the goods of a number of persons unconnected with each other.

GENERAL SHIPPING, FREIGHT, ETC., INS. CO.—A scheme under this title was projected in 1846 by Mr. Augustus Collingridge and Mr. John Newman Burnand, of *which* we hear no more; but of *whom* we have heard a great deal more.—See BURNAND, J. N.; COLLINGRIDGE, A.

GENERAL TAIL.—An estate tail, where one parent only is specified, whence the issue must be derived—as to A and the heirs of his body. [TAIL.]

GENERAL WARRANTY.—See WARRANTIES.

GENERAL WIDOWS FUND OF BERLIN.—This Asso. was founded in Berlin in 1776; and some account of it will be given under WIDOWS FUNDS. In 1847 Herr Brune pub. in the *Allgemeine Versicherungs Zeitung* the Mort. Experience of the So. from 1776 to 1845. This will be given under GERMANY, sub-heading *Mort. T.*

GENERATION, A.—This is the interval of time elapsed between the birth of a father and the birth of his son, and has been generally used in computing considerable periods of time, both in sacred and profane hist. The interval of a generation is consequently of uncertain length, and depends on the standard of human life, and whether the generations are reckoned by eldest, middle, or youngest sons: 33 years have been usually allowed as the mean length of a generation, or 3 generations to a century.—*Hale's Chronology.*

It was the practice in the days of Herodotus, the Greek Historian [450 B.C.], to reckon three generations as equivalent to a century, and very accurately. This allows 33 years and 4 months for the increment of time between the birth of a father and the birth of that son who succeeded him in the government of the state or family. "Whoever chooses to reckon over the same events in regard to the Stuarts, Kings of Scotland, will find the same period true to a day."—*John Finlaison*, 1829.

1829.—In the *Annuaire* for this year, pub. by the Board of Longitude of France, there is an account by M. Villot, Chef du Bureau de Statistique, of an attempt he had made to determine the duration of a generation at *Paris* during the 18th century—meaning by the duration of a generation, the average space that had elapsed from the birth of a father to that of one of his sons, taken at random among his children. For this purpose the date of the birth of a male child, and the names of its father and mother being taken, a search was made among the registers for the date of the marriage of the parties; and then, by means of the references that were thus obtained, a further search was made to ascertain the birth, and consequently the ages of the father and mother at the period of their marriage, and at the birth of a child. Owing to the number of immigrations, these searches often proved fruitless; but by persevering efforts, such a number were at length completed, as appeared to be sufficient to give a pretty fair average. And it results from 482 instances, taken indiscriminately among all ranks and orders, that at *Paris* during the 18th century, the mean age of a man at the period of his marriage was 29·68 years, and of a woman 24·72 years; the mean difference of age between the parties being 4·96, or very nearly 5 years. It further appeared from 505 observations made on the male, and 486 on the female sex, that the mean age of the

MARCH						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
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22	23	24	25	26	27	28
29	30	31				

the birth of a son had been 33·31 years; and that the mean age epoch had been 28·17 years. "Supposing these statements to M. Villot endeavours to show that they cannot involve any notion of a generation at Paris in the 18th century would, on this 33·31 years. It is to be hoped that a similar research will be mean age of parties marrying and having children in London." 329 (p. 28).

ing is an outline of the obs. of the Commissioners appointed to it. Britain this year—vide *Abstract* pub. by authority of Reg.-Gen.

ATION is used in various senses; but it may be conveniently defined 'the co-existent persons that are sustained by a given constant number of

ng whom the births increase annually, new generations are annually in developing themselves during a hundred years. For the sake of 1, the numbers, equal to the orig. stock of people, may be distinguished as a generation. The time in which a generation is completed, or the time in perisues—if the births cease—was called by the ancients a generation; but it more clearly designated by age or *seculæ*, if the word century were—as it has that it is not—inapplicable.

exceptions, the whole of the people living in 1851 have been born since A.D. 1751, this great generation may be conveniently subdivided into the primary generation, presenting in numbers the generation existing in 1751; and parts of a hundred new generations, which have, it may be assumed, been created by the ann. excess of births over the births in the preceding year.

Men and women in the prime of life have increased faster than the rest of the pop. It is evident, upon inspecting the T. of ann. baptisms, that the births have fluctuated in numbers from year to year, and that they have increased at various rates: the rate of increase was only about 5 p.c. every 10 years from 1705 to 1745; the decennial rate increased in the interval from 1745 to 1765 by 6 p.c.; from 1765 to 1805 the decennial rate slowly increased, and was about 9 p.c.; from 1805 to 1815 it was 13 p.c.; from 1815 to 1825 it was 15 p.c.; from 1825 to 1835 it was only 6 p.c. The births, which were not all registered, prob. increased in somewhat similar ratios.

This partially explains the cause of the great increase of the pop. at the age of 20-40, in the 30 years from 1821 to 1851, as compared with the increase of the pop. under 20 and above 60 years of age.

The prolongation of the life of generations, as well as the increase of births, tends to increase the numbers living at one time; that is, the numbers of the pop. Thus, of 100,000 children born in *Liverpool*, only 44,797 live to the age of 20, while in *Surrey* that age is attained by 70,885 out of the same number of children born: the prob. lifetime is about 6 years [Note.—In *Manchester* 100,000 children born are reduced to about one-half (49,910) in six years] in our unhealthiest towns; 52 years in *Surrey* and other comparatively healthy parts. In *Manchester*, where the mort. is high, 100,000 ann. births only sustain at the ages 20-40 a male pop. of 38,919; while in all E. and W., where the mort. is now much lower, the same number of births produces a constant force of 61,215 men at that age; and at other ages similar disparities in the numbers living exist. Now, the mort. was not much less in all England formerly than it is now in *Manchester*; and the great diminution in the mort. of England evidently took place at such a period of the last and present centuries as left proportionally more survivors at the ages 20-40 in 1851 than at the corresponding ages in 1821: for the dangers and loss of life incurred by the generation born in the 40 years 1781-1801 were greater than those which were encountered by the generations born in 1811-31. (p. 33.)

1874.—Mr. Charles Ansell, jun., in his interesting work: *On the Rate of Mort. at Early Periods of Life; the Age at Marriage; the Number of Children to a Marriage; the Length of a Generation; and other Statistics of Families in the Upper and Professional Classes*, offers some obs. on "the Length of a Generation," from another point of view; and from these we compile the following:

The length of a generation in the sense here intended is the mean period that elapses between the births of parents and the births of their children—or, in other words, the number of years that persons are, on the average, younger than their fathers and mothers. In a T. which he has there given the number of "different sized families" resulting from marriages of bachelors to spinsters out of 1919 cases, in which both husband and wife lived beyond the child-bearing age of the latter, is shown; and those families contain the following numbers of children in numerical orders of birth, from the oldest to the youngest, viz.:

1st children	1767	6th children	846	11th children	155	16th children	10
2nd	1636	7th	652	12th	92	17th	6
3rd	1453	8th	487	13th	46	18th	3
4th	1260	9th	362	14th	27		
5th	1075	10th	241	15th	17	Total	10,135

The periods that on the average intervene between marriage and the birth of successive children he had shown in a previous T. to range from 1'32 to 23'02 years—the children in large families succeeding each other more rapidly than in small. The mean interval between the marriage of the parents and the births of all their children being 7'00—or exactly 7 years.

The mean ages at which, during the present century, marriages between bachelors and spinsters have been contracted, are, 29'32 years for the former, and 25'16 years for the latter. These ages, therefore, with 7 years added to each, will indicate the mean periods intervening between the births of children and the births of their fathers and mothers, viz.: 36'32 years and 32'16 years respectively, in the families included in column A of Table X.

These results, however (he points out), will not express exactly the average length of a generation, because in a certain proportion of cases the fruitful period of marriage is abridged by the premature death of either the husband or the wife; and if such cases be included, as they ought to be in dealing with the subject now under consideration, the mean interval between the marriages of parents and the births of their children will be somewhat less than the term of 7'00 years, deduced from cases in which both husband and wife survived.

On the other hand, by including re-marriages the average age of the parents at marriage will be increased.

It had been shown in another chap. that out of 10,000 marriages of bachelors to spinsters, the fruitfulness of the unions would prob. be terminated in 1960 cases by the premature deaths of one or both of the parties, and that the average number of children in such cases was 3'39, instead of 5'28, as it is when both parties survive. By rejecting the larger families in column E of Table X, so as to reduce the average number of children in each of those remaining to 3'39, and calculating by a T. given, the mean interval between the births of these and the marriage of their parents, the result obtained was 4'59 years.

From the number of marriages recorded in his T. No. X., it may be deduced that 8'6 p.c. of men and 2'6 p.c. of women who have been married once marry again; and that to 10,000 marriages of bachelors and spinsters, there are 820 widowers married to spinsters; 223 bachelors married to widows; and 60 widowers married to widows.

The mean ages of the parties to such unions; the average number of children born to them; and the mean intervals between the marriages of the parents and the births of their children, are as follows:

Marriages of	Mean Ages at Marriage.		Average No. of Children in each Family.	Mean intervals between the Parents Marriage and the Birth of their Children.
	Husband.	Wife.		
	Years.	Years.		Years.
Widowers and Spinsters	39'54	31'50	4'14	6'46
Bachelors and Widows	31'78	31'12	3'25	4'35
Widowers and Widows	43'07	36'36	2'50	3'61

The results thus deduced are summarized in the annexed Table:

Marital Condition at Time of Marriage.	No. of Marriages.	Mean Ages at Marriage.		Number of Children.		Mean intervals between the Marriages of the Parents & the Births of their Children.	Mean Ages of Parents when their Children are Born.	
		Husband.	Wife.	Average in each Family.	Total.		Father.	Mother.
		Years.	Years.			Years.	Years.	Years.
Bachelor and Spinster both survive the child-bearing age of the wife	8040	29'32	25'16	5'28	42,451	7'00	36'32	32'16
One or both dying before the child-bearing period has passed.....	1960			3'39	6,644	4'59	33'91	29'75
Widower and Spinster	820	39'54	31'50	4'14	3,395	6'46	46'00	37'96
Bachelor and Widow.....	223	31'78	31'12	3'25	725	4'35	36'13	35'47
Widower and Widow.....	60	43'07	36'36	2'50	150	3'61	46'68	39'97
Total and Average.....	11,103				53,365		36'66	32'30

“And on combining them in the proportions of the total numbers of children to

each of the classes of marriages, the final results obtained are, that the average intervals between the births of fathers and mothers and the births of their children are 36·66 years and 32·30 years respectively. The mean of these intervals is 34·48 years; and that period, therefore, may be considered to represent very nearly the average length of a generation."

At the same time (he adds) this result must be regarded rather as a closely approximate, than as a rigidly accurate one, "there being several possible sources of a minute amount of error involved in the mode in which it has been deduced." Among these is mentioned the somewhat different rates of mort. prevailing among elder and younger children; the possibly different rates of mort. among children of the first and of subsequent marriages; a possible difference in the proportions of elder and younger children married, and of their fecundity when married; cases of second marriages in which the husband may have died prematurely not having been included in the data; and the cases in some of the classes of marriages being scarcely numerous enough to yield a perfectly reliable average. "No one, however, of these sources of error separately could exercise any material influence on the final results, and as some of them, so far as they would operate at all, would do so in different directions from others, it is probable that the balance of their effects, if capable of estimation, would be found to be unimportant."

For all practical purposes, therefore, he concludes, it may be considered that the average length of a generation, among the upper and professional classes in this country, is 34½ years.

1875.—By means of such elucidations and generalizations as the preceding, the bearing of many of the facts scattered through this work is made manifest. We propose now, therefore, to turn to Dr. Farr's *Supplement to the 35th Ann. Rep. of Reg.-Gen.*, pub. this year, and from it to reproduce sec. 15—"March of an English Generation through Life":

It is possible, by means of Tables so constructed, to follow any large number of people through the whole of their ages, and to point out the casualties under which they will probably succumb.

Age 0-5.—The first thing to observe is, that the fatality children encounter is primarily due to the changes in themselves. Thus 1,000,000 children just born are alive, but some of them have been born prematurely; they are feeble; they are unfinished; the molecules and fibres of brain, muscle, bone, are loosely strung together; the heart and the blood, on which life depends, have undergone a complete revolution; the lungs are only just called into play. The baby is helpless; for his food and all his wants he depends on others. It is not surprising then that a certain number of infants should die; but in Eng. the actual deaths in the first year of age are 149,493, including premature births, deaths by debility and atrophy; diseases of the nervous system 30,637, and of the respiratory organs 21,995. To convulsions, diarrhoea, pneumonia, bronchitis, chiefly their deaths are ascribed; little is positively known; and this implies little more than that the brain and spinal marrow, nerves, muscles, lungs, and bowels fail to execute their functions with the exact rhythm of life. The first two are said by pathologists to be often rather symptoms of diseases unknown than diseases in themselves. The total dying of miasmatic diseases is 31,266; but it is quite possible that several of the children dying of convulsions die in the early stages of some unrevealed zymotic disease, whose symptoms have not had time for development. Convulsion is a frequent precursor in children of measles, whooping-cough, scarlet fever, fever; indeed Dr. C. B. Radcliffe well remarks, "In the fevers of infancy and early childhood, especially in the exanthematous forms of these disorders, convulsion not unfrequently takes the place occupied by rigor in the fevers of youth and riper years." Many of the cases of pneumonia may also in like manner be whooping-coughs and other latent zymotic diseases. In the second year of life pneumonia, bronchitis, and convulsions are still the prevalent, and most fatal diseases; many also die then of measles, whooping-cough, scarlatina, and diarrhoea. Scarlet fever asserts its supremacy in the second, third, fourth, and fifth years of age. Whooping-cough is at its maximum in the first year, measles in the second, scarlatina in the third and fourth years. Thus these diseases take up their attacks on life in succession and follow it onwards.

The deaths from all causes under the age of five years are 263,182. The number ascribed to infanticide is very few; but the deaths by suffocation (overlying, etc.) are more numerous; and so are the deaths directly referred to the "want of breast-milk." The total deaths by burns, injuries, drowning, and all other kinds of violence, are 5175.

By a physiological law 511,745 boys are born in England to 488,255 girls; and by another law 141,387 boys and 121,795 girls die in the first five years of life; so that at the end of five years the original disparity in the numbers of the two sexes is so much reduced that at the age of five years the boys only slightly exceed the girls in number. The greater mortality of boys is due to difference of organization, for the external conditions are substantially the same in which boys and girls are placed.

Great as is the influence of organization itself, the difference of external circumstances and sanitary condition exercise a very real influence on life, disease, and death in childhood.

Thus, even in the Healthy Districts of the country, out of 1,000,000 born, 175,410

children die in the first five years of life; but in Liverpool District, which serves to represent the most unfavourable sanitary conditions, out of the same number born, 460,370, nearly half the number born, die in the five years following their births. This is 284,960 in excess of the deaths in the Healthy Districts.

Out of 1,000,000 Children Born Alive (1) in the Healthy Districts, (2) in All England, and (3) in the District of Liverpool, the Numbers Dying under 5 Years of Age, by 19 Groups of Causes.

	Healthy Districts.	England.	Liverpool District.
DEATHS FROM ALL CAUSES.....	175,410	263,182	460,370
TOTAL ZYMOTIC DISEASES	49,761	87,099	171,009
Smallpox	602	3,331	5,175
Measles.....	5,257	11,507	25,514
Scarlatina.....	11,373	17,959	26,818
Diphtheria	4,184	2,425	3,395
Whooping-cough.....	9,650	14,424	32,551
Typhus (with Enteric and Common Fever).....	2,807	5,401	9,297
Diarrhoea and Dysentery	9,354	20,344	51,911
Cholera.....	399	1,129	4,255
Other Zymotic Diseases	6,135	10,579	12,093
Cancer	110	71	62
Scrofula and Tabes	5,335	8,115	11,694
Phthisis.....	2,056	4,469	5,116
Hydrocephalus	6,604	9,296	14,972
Diseases of the Brain	22,692	40,065	49,840
Diseases of the Heart, and Dropsy	1,304	1,507	2,038
Diseases of the Lungs.....	27,884	41,476	79,893
Diseases of the Stomach and Liver	4,431	4,778	4,874
Violent Deaths	4,232	5,175	17,107
OTHER CAUSES	50,401	61,131	103,765

The above T. shows how many children die from the several groups of causes (1) in the Healthy districts, (2) in all England, and (3) in the Liverpool district. There is a greater increase in Liverpool from smallpox and measles than from scarlet fever; and diphtheria was more fatal in the Healthy districts than in all England. Diarrhoea and cholera were greatly aggravated in the other districts of England; so were whooping-cough, and typhus, under which were registered typhus, typhoid, infantile remittent, and relapsing fever. The diseases of the lungs are more fatal to children in Liverpool than diseases of the brain.

The children of Norway fare better than the children of sunny Italy; to which it may well be still an *officina gentium*. Out of 100 children born alive the deaths in the first five years of life are in Norway 17, Denmark 20, Sweden 20, England 26, Belgium 27, France 29, Prussia 32, Holland 33, Austria 36, Spain 36, Russia 38, Italy 39. Russia is almost as fatal to her children as Italy.

In a paper read before the Statistical So. [of Lond. vol. xxix. pp. 1-35] the methods of determining the rates of mort. were described, and I collected information as to the treatment and management of children in Scotland, Norway, Sweden, France, and Austria. The subject was taken up in England by the Obstetrical So., who published an able report, based on returns, on the birth and treatment of English children. I have not yet received papers from Russia or Italy.

The mortality of infants evidently depends, to some extent, on the midwifery of a country; on the way the children are fed by the mothers; on the water; and on the cleanliness observed, as well as the other sanitary conditions.

Age 5-10.—Our young travellers now enter on their *sixth year* of life. They have left great numbers on the way. And nearly every one of the 736,818 survivors has been attacked by one disease or another; some by several diseases in succession. There is one fact in their favour: the majority of the zymotic diseases rarely recur. Each renders the body insusceptible of injury from diseases of its own kind, though not from other diseases. Medicine is still without any accurate determination of the numbers attacked to every death, but it is evident from the deaths that some hundreds of thousands of the survivors have had whooping-cough, measles, scarlet fever. Taking advantage of the non-recurrent law, Jenner, by his immortal discovery, substituted smallpox modified and mild for natural smallpox; and it is probable that the greater part of all the children at the age of five are vaccinated, or have had smallpox.

So the total deaths in the five years following are 34,309; 8743 of them from scarlatina,

the principal plague of this age, 1364 from diphtheria, 4036 from fever : more than half of the deaths in this young age are from miasmatic disease, in all 19,256. The brain and lung diseases levy also a certain tribute.

Age 10-15.—But 702,509 survive and enter on this age, which culminates in puberty ; and 684,563 pass through it into the next at the age of 15 ; for the deaths are fewer than at any other age. They amount to 17,946, of which 1901 are by scarlatina, 2842 by fever, 3526 by phthisis, these last two diseases already standing as the most deadly ; in this period the change in girls is greater than the change in boys, and rather more of them die.

Age 15-20.—Now the mortality increases, especially among women, of whom 5263 die of consumption (phthisis), and 244 of childbirth, for at this age a few young girls marry with some risk to their lives. The tight ligatures that are so often and so unwisely placed round the waist interfere with respiration ; and may, with their in-door life, favour the development of phthisis. The deaths of males by consumption are 3811, by fever 1368 : the deaths from both diseases being fewer than the deaths of females from the same causes. The violent deaths of 1387 males, against 193 females, go a long way towards redressing the inequality.

Melancholy suicide appears now among the causes of death ; indeed 14 such deaths appear before the age of 15, but the numbers in this age amount to 94, of whom 46 are males, 48 are females. Insanity looms on the horizon, and there is an excess of fatal brain affections over affections either of the heart or lungs.

Age 20-25.—At this age large numbers marry. The deaths are 28,705, of which nearly half, or no less than 13,785, are by phthisis. Fever is associated with it, as the great prevailing zymotic disease ; the reign of the other zymoses of the young is almost over. The brain, heart, and lung begin again to suffer, and of their diseases more die. 1100 women die in childbirth.

If it is the age of love, it is also the age of war, of dangerous work, and of crime : the violent deaths, exclusive of suicides, are 1677, without reckoning any death in foreign war.

Age 25-35.—Of the million, 634,045 attain the age of 25, and 571,993 live to the age of 35. The period extends over double the time hitherto handled. It is the athletic, the poetic age : it is the prime of life : two-thirds of the women are married ; and now at its close is the mean of the period (33-34) when husbands become fathers, wives become mothers, the new generation is put forth. The deaths are separations ; they leave widows and fatherless children behind. Of the 62,052 that die, 30,592 are men, 31,460 women ; 2992 of the men, and only 309 of the women die by violence, suicide excepted ; but 2901 women die in childbirth.

Consumption is the most fatal disease of the age ; it is the cause of 27,134 deaths ; women suffering more than men. Fever is fatal to fewer lives than it was earlier ; but it is by far the most fatal of the zymotic diseases, and slays its 4197.

The local diseases of lungs, heart, and brain grow intenser in this period.

We may now look back to the fate of a generation exposed to unfavourable conditions ; such, for instance, as prevailed in the Liverpool district. There, of a million born, less than half, only 434,497, live to the age of 25 ; then 74,153 die in the ten years, leaving 360,344 alive at the age of 35. No less than 10,657 die of fever, 333 of suicide, 4850 of other violent deaths. The local diseases are exceedingly fatal ; 1938 mothers die in childbirth.

In happier sanitary conditions 727,552 live to the age of 25, and 667,940 survive the age of 35. Only 3116 die of fever, 396 of suicide, and 2819 of other violent deaths.

Age 35-45.—The losses are of 69,078 lives ; 35,142 men, 33,936 women. The athletic age is now over ; but the combined faculties of muscular and nervous energy are at their height. Women have borne more than half of their children, now they bear the rest. It is the age of fathers and mothers ; criminality declines. Many of the structures now give way. Phthisis still predominates ; fever snatches still its many victims ; and the brain, heart, lungs, and bowels become more and more the seats of destructive disease. 564 persons commit suicide ; 3280 die violent deaths, 2907 of them men, and 373 women ; 2516 mothers die in childbirth.

While the deaths by fever are 3777 out of 571,993 attaining this age in England ; 14,322 people die of it in the Liverpool District out of 360,344. The lung diseases in the two sets of conditions are fatal to 7452 and 13,967 lives.

In the Healthy districts the deaths by fever are 2702, by diseases of the lungs 5261.

Age 45-55.—This age is the middle arch of life : *nel mezzo del cammin di nostra vita* [Dante : *Divina Comedia, Inferno*, Canto I], for the million are reduced to half a million lives, a few months after the age of 45. They have produced the succeeding generation. The age of fertility is now nearly over in women ; but a few lingerers bear children, and in the act 160 die. The deaths by all causes are 81,800 ; by fever 3749 ; diarrhoea, dysentery, and cholera 1944 ; by phthisis 16,468 ; by lung diseases 13,203, heart diseases and dropsy 10,041, brain diseases 9313, bowel and liver diseases 7917. The centres of life are sources of death. At this age, in their wretchedness, and in their weakness, 599 men, 204 women, in all 803, appeal rashly to the "arbitrator of despair, just death." 2876 men, 478 women, in all 3354 persons, die violent deaths.

Cancer, a formidable and dread disease that began to be fatal before, now destroys 4583 lives, 1140 men, 3443 women.

In unfavourable sanitary conditions out of a million lives in Liverpool, only 275,193 attain the age of 45, and 90,969 die in the following ten years; 12,504 of fever, 13,274 of phthisis, 24,417 of pulmonary diseases, 420 of suicide, and 4314 of other violent deaths.

In the healthy districts of the country 606,019 attain the age of 45, and 71,938 die in the ten years following; 2306 by fever, 13,745 by phthisis, 10,012 by brain diseases, 10,451 by heart diseases and dropsy, 8234 by pulmonary diseases, 1022 by suicide, and 3030 by other violent deaths.

Age 55 and upwards.—To the age of 55, near the middle of the possible lifetime of humanity in its present state, 421,115 attain; and from this point of time it is possible to look ahead, and discover the particular rocks, foes, collisions, tempests to be encountered, to be dreaded, or to be weathered by the fleet on its way to the utmost butt of existence, "the very seamark of its journey's end."

One thing to remark is, that the rate, the degree of danger, which has hitherto increased slowly, now increases at so much faster a pace, that although the number of lives grows less, the number of deaths increases in every one of the next 20 years, and is afterwards sustained for 10 years longer, until at last in the distance the living all sink into the elements from which they came.

Few will die of the non-recurrent zymotic diseases; some 29,803 in all will die of fever, diarrhoea, cholera, rheumatism, and other zymotic diseases; cancer will carry off almost as many as phthisis; the greatest mortality, however, will be experienced from diseases of the lungs; then will follow in their wake of destruction brain affections, apoplexies, paralysies; heart and artery diseases, often the remote cause of the other maladies, bowel and liver diseases, kidney diseases; many will still die violent deaths as they are less able to resist injuries than younger lives. Gout and intemperance will reap their later harvest; so will mortification, atrophy, debility, and the infirmities of old age: then comes the end.

Of 100 women living of the age of 55 and upwards, it is worthy of note that 11 are spinsters, 43 widows, and 46 wives; of 100 men 9 are bachelors, 24 widowers, 67 husbands. We now pass to the particular decennials of life.

Age 55-65.—The number of males and females surviving becomes equal at the age of 53, but at and after 55 the women exceed the men in number, as their mortality-rate is lower ever after the age of 39. While 421,115 of both sexes enter this stage of life, 309,029 live on to the next; 112,086 die; only 9795 of fever, diarrhoea, dysentery, cholera, rheumatism, and other zymotic diseases. Cancer kills 5998 persons, 4035 of these women; consumption 10,445: the diseases most to be dreaded, and guarded against, especially by men, are affections of the lungs, and heart, of which 23,659 and 17,081 persons die: diseases of the brain are fatal to 15,678, of the stomach, intestines, and liver are fatal to 11,400. The vigour of life is somewhat subsiding; family cares perhaps accumulate, ambition is disappointed, and the mind sometimes gives way organically: the tendency to suicide is greatest at this age, and the greatest number of lives, 826, come to that melancholy close in this period. But 3155 are killed by violent deaths of various kinds; 2560 men, 595 women.

Age 65-75.—309,029 enter this age, and 161,124 leave it alive: 67 years is near the mean date at which their children give birth to their grand-children; the third generation. The 147,905 dying in this period succumb to the same classes of disease as were fatal in the previous decenniad; and still more succumb to lesions of the brain and heart, and lungs: the kidneys give way, but are never so fatal as affections of the higher organs. 11,256 of the deaths are from fever, diarrhoea, cholera, rheumatism, and other diseases of the miasmatic order; 9789 from five constitutional diseases; 92,391 from diseases of brain, heart, lungs, and other local organs; 3064 from violence, and there remain 31,405 referable in great part to a new head in the developmental class, *old age*.

The year of age 72 is that in which the greatest number of *men* die; and which may have led the Psalmist to say, the days of the years of our life are three score years and ten; but these are "days passed away in thy wrath," in violation of the divine laws, and therefore are not necessarily the limit of healthy existence where the laws of life are observed.

Age 75-85.—The numbers that enter this decenniad are 161,124, and the numbers that leave it alive are 38,565. More than half the numbers living have been married and are widowed. The 122,559 that die of recognized diseases at this age die chiefly of lung, brain, heart, and other local diseases; against such dangers they have to guard themselves. The number of such deaths is 51,838; then some 7229 persons die of miasmatic diseases; 131 of suicide, 1691 of violence. The cold weather is their great foe. But there remain 58,905 dying chiefly of atrophy, debility, and *old age*.

Age 85—to the end.—The 38,565 aged pilgrims are no longer what they were; their strength is fading away, and they succumb to slight injuries, to cold, heat, want, or attacks which in their early years would have been shaken off: only 2153 live to the age of 95; and 223 to 100; finally by this T. at the age of 108 one solitary life dies.

Of what causes do they all die? Diseases grow again as obscure as they were in infancy;

zymotic diseases, constitutional diseases scarcely appear; the diseases of the lungs and brain are the most conspicuous among the local diseases; 509 die of violent deaths, including suicides. These causes account for the end of 10,659, leaving 27,906 that die chiefly of *old age*—of what has been called natural death.

Majendie pointed out to me at Salpêtrière, the hospital for old people in Paris, that the deaths apparently from no cause were often the result of pneumonia, or consolidation of the lungs, which in the absence of the ordinary symptoms could be detected before death by dullness of the chest on percussion. Hippocrates had noted that the symptoms of diseases grew obscure in advanced age. And this must be so. The symptoms of disease—including pain itself—require strength for their manifestation; without it reaction is scarcely appreciable; and many diseases in the old as well as in the young are so insidious as to escape detection. But upon the other hand many deaths due to debility are ascribed to specific diseases. And beyond doubt thousands do die of old age; thousands of the generation, like the patriarchs of old, fall asleep. As the body with all its parts is undergoing continual renewal, it grows, gets consciousness, develops strength for years, and then all its powers insensibly decline, until the daily alternations from wakefulness to sleep of which life is made up cease; and it is all sleep; the life exhales in the arms of friends, or alone in the night like a light goes out. This last end is the natural death to which, as Bacon says, it is the office of the physician, of the state physician we say, to conduct the nation. "For it is no small felicity which Augustus Cæsar was wont to wish to himself, that same *Euthanasia*; and which was specially noted in the death of Antoninus Pius, whose death was after the fashion and semblance of a kindly and pleasant sleep." [*Advancement of Learning*, ii. x. 7.]

Such and so various are the settings of forty million eight hundred and fifty-eight thousand one hundred and eighty-four years of English life. (pp. xxviii-xxxiii.)

Five Generations.—"Clericus" wrote to the *Times*, May, 1877:—"The following must, I should think, be a very uncommon case; in my experience it is an unparalleled one:—There is now living in the Fens, near Downham Market, Norfolk, Mrs. Ann Bennett, aged 85. This age would not be considered very old in the Fens, where centenarians are not so rare as in other parts of the country. But her daughter, Sarah Southwell, aged 66, and her granddaughter, Eliza Bacon (daughter of Sarah Southwell), aged 48, and her great-granddaughter, Naomi May (daughter of Eliza Bacon), aged 20, and her great-great-grandson, a fine boy (son of Naomi May), a few weeks old, are all at the present time alive and well."

Mr. C. Faulke-Watling, writing from the Temple Club, said hereon:—"The contemporaneous existence of five generations of the same family, though rare, is not altogether unprecedented, as the following curious distich, which I met with recently in a book in the British Museum, will show:

"Mater ait natæ, Dic natæ filia, natum
Ut moveat, natæ plangere filiulam."

That is, "The mother said to her daughter, Daughter, bid thy daughter tell her daughter that her daughter's daughter cries."

And "H. W." wrote:—"Mr. Faulke-Watling may be interested in an English version, which I met with some years ago, of the distich he has quoted:—

"The aged mother to her daughter spake;
'Daughter,' said she, 'arise;
'Thy daughter to her daughter take,
'Whose daughter's daughter cries.'"

1878.—In "Notes and Queries" for this year will be found many facts bearing upon the length of a generation of much interest. Some exceptional cases are given, which we quote on the authority of the writers there. Thus: there is the historical incident of James II. of Eng., born Oct. 1633, whose grandson Henry, Cardinal of York, died in June, 1807—the 3 generations lasted 173 years and 8 months. Again, and more remarkable: the Cardinal of York's aunt by half blood, Queen Mary II., died in Dec. 1694—being 112½ years before her nephew. Another case of Royalty is mentioned: Geo. III. was born 4 June, 1738; his granddaughter the Duchess of Teck, was born 27 Nov. 1833—95 years after the birth of her grandfather; she has the bal. of her life still to run.

The case of the Cogan family is quoted: "Eliezer Cogan was born in 1762 and did not die until 1855, so (his father being 64 when he was born) the two generations extended from the reign of King Wm. to that of Q. Victoria. The family also presented the unusual spectacle of 3 brothers—one born in 1736, a second in 1762 and a third in 1779."

Again: the father of James Russell, Esq., of Breconside, in Upper Nithsdale, now living in his 83rd year, was born in 1722, dying in his 86th year in 1808—thus father and son extend over a period of 156 years.

James Horrocks, of Harwood, near Bury (Lanc.), was able to say in 1844, when 101 years old, that his father was born 188 years ago. The father, it was stated in explanation, was 87 years of age at the birth of his son James—having married a young woman the year before.

Lord Mendip died in 1802, nearly 200 years after the birth of his grandfather, in 1606.

Mr. Frank Scott Haydon, in this discussion, said :

... And in 500 years only 15 average generations are to be found—hardly enough to found a rule upon, which is to be used, and which has been used, in determining the trustworthiness of genealogical statements. The truth is that the average length of a generation depends partly upon the average age of marriage : and every genealogist knows that marriages were contracted in old times much earlier than at present even by persons in a good position ; and that they are contracted earlier now among the poor than among the well-to-do.

These considerations have, at least in part, been met in the obs. contained in the earlier portion of this article.

BIRTHS ; DEATH-RATE ; DISEASES ; ENGLISH LIFE T. ; HEALTHY DISTRICTS ; LONGEVITY ; MARRIAGES ; MORT. T. ; OLD AGE ; POP.

GENERATION, ACT OF (from *genero*, to beget).—Reproduction. [FECUNDITY.]

GENERATION, DISEASES OF THE ORGANS OF.—DEATHS FROM.—These rank as order 6 of the class of LOCAL DISEASES, and embrace Ovarian Dropsy, and Disease of the Uterus, etc. The deaths in England from this order of diseases are remarkably uniform, of course increasing with the pop. In 1858 they were 1148 ; in 1862, 1227 ; in 1867, 1316. Over a period of 15 years, ending 1864, they averaged 56 to each million of the pop. living.

The deaths of 1867 were thus divided : males 82 ; females 1234. Of the males 7 died under 1 year, and 11 under 5 ; 2 between 5 and 10 ; 5 between 20 and 25 ; 9 between 45 and 55 ; 20 between 65 and 75 ; and 1 between 75 and 85. Of the females 1 died before the age of 1 year, and 6 before 5 ; 43 died between 20 and 25 ; 185 between 25 and 35 ; 260 between 35 and 45 ; 308 between 45 and 55 ; 215 between 55 and 65 ; 147 between 65 and 75 ; 44 between 75 and 85 ; and 4 between 85 and 95.

GENERATION, SPONTANEOUS.—The production of animal and vegetable life without the agency of organisms of a similar nature. We have no intention of entering upon a consideration of the controversies which have so long, and again so recently, agitated the scientific world hereon, and of which the following outline will be sufficient here. Doctrine controverted by Redi 1668 ; supported by Needham 1745 ; refuted by Spallanzani about 1765 ; maintained by Rudolphi 1808—by Bremser 1824. Discussion and experiments renewed by Schwann 1837 ; experiments by Crosse same year ; doctrine supported by Ponchet 1859 ; refuted by Pasteur 1862 ; supported by Wyman 1862 ; refuted by Tyndall 1878.

The question will have to be considered in some degree under PLAGUES. [DISEASES.]

GENEROUS So. (for Marriage Ins.) AT TEMPLETON'S COFFEE-HOUSE.—This office was opened in Nov. 1710. We shall give details concerning it under MARRIAGE INS.

GENEVA.—A very ancient Swiss city, whose nationality has, however, been frequently changed during the political convulsions of the last 15 centuries. The situation of the city is very delightful ; and the climate is generally healthy. The water supply from its beautiful lake is very abundant ; but rain is by no means frequent. Winds are very frequent both from the lake and the land. The chief industry of the place is the manufacture of clocks, watches, and jewelry. Pop. in 1870 was 46,783.

1549.—The mortuary registers of this city, which have been kept from this date, included down to 1760 no less than 115,777 deaths, which have been classed by Dr. Jean-Antoine Cramer according to the ages at which they happened. It was in 1560 that the ages of persons at death was first stated ; and these were omitted during the twelve years 1568–1579 ; as also were the ages of the 1648 individuals who died of the plague in 1615 and 1616. Dr. Abraham Joly continued the inquiries of Dr. Cramer in the same manner during forty-one years 1771–1811 ; and died himself in 1812. M. Odier [see 1828] continued the labours of Dr. Joly ; and several other able writers have followed.

1798.—Malthus states, on the authority of a paper which appeared in the *Bibliothèque Britannique*, pub. in this city, the following : “It appears that in the 16th century the prob. of life, or the age to which half the born live, was only 4·883—rather less than 4 years and $\frac{7}{8}$ ths ; and the mean life 18·511—about 18 years and a half. In the 17th century the prob. of life was 11·607—above 11½ years ; and the mean life 23·358. In the 18th century the prob. of life had increased to 27·183—27 years and nearly a 5th ; and the mean life to 32 years and a fifth.”—7th ed. p. 165.

1828.—M. Odier, a distinguished statistician, in this city, calculated from its registers the Exec. of Life for Males and Females respectively, during the period 1815 to 1825 :—

This Table first appeared in the supplementary volume of the *Bulletin de M. de Ferussac pour les Sciences Géographiques*, etc., p. 106.

The expectation of males from ages 10–20 is greater than in Finlaison's Table of Government Annuitants, but at the later ages less ; whereas the expectation of the females is less at all ages than in Finlaison's Table.

1833.—In the 17th vol. of the *Annales d'Hygiène*

Exec. of Life at Geneva from 1815 to 1825.—ODIER.

Age.	Men.	Women.
0	40'543	49'964
5	49'958	53'268
10	46'671	49'339
15	42'583	44'953
20	38'944	41'176
25	35'625	37'000
30	31'830	33'358
35	27'947	29'313
40	24'011	25'050
50	16'449	17'836
60	11'007	11'729
70	6'607	7'440

Publique, appeared a memoir by M. Edouard Mallet, entitled *Historical and Statistical Inquiries Respecting the Population of Geneva, from 1549 to 1833*. An abridged translation of this paper was made by Mr. Richard Valpy for the *Statistical Journal* [vol. xiv. p. 298].

1834.—M. Mallet read before the Natural History So. of Geneva a valuable memoir of historical researches into the pop. of this city from 1549 down to 1833, the restoration of the Republic. The memoir is divided into three parts. The first contains all that is known of the pop. from successive enumerations. The second relates to the progress of the pop. year by year. The third relates to the progress of 20 years, from 1814 to 1833. The author shows that at a remote period the legislature of Geneva considered an exact knowledge of the pop. of the city a matter of importance; and he has given it at nine different periods. In 1589, when it was 13,000; the last in 1834, when it was 27,127, of whom 12,573 were males, and 14,604 females. At the same time the pop. of the suburbs was 9052.

1875.—Violent hail-storm; great destruction of glass and crops.

GENEVA AWARD.—This award arose out of the depredations upon the commerce of the U.S. occasioned by the *Alabama* steam vessel, 900 tons burden, with 300 horse-power engines, constructed by Messrs. Laird at Birkenhead for the Confederate service, and launched 15 May, 1862; and it has an important bearing upon Ins. interests, as will appear.

During judicial inquiries as to her character and objects, she sailed from the Mersey 28 July—the day before the *British Gov. telegraphed to detain her*. Her commander was Captain Semmes, an American (Southerner); and she continued her depredations until destroyed by the Federal ironclad *Kearsage* (Captain Winslow) off Cherbourg, 19 June, 1864. Two other Confederate cruisers—the *Florida* and *Shenandoah*—had received British aid.

The U.S. Gov. claimed to hold the British nation responsible for the damages occasioned. The matter was, after some negociation, referred to a joint commission; which was also to settle Fishery Disputes (Canadian waters), etc. This was in 1871. When the American case was presented, it was found to include large sums for (inter alia) *the increased cost of Marine Ins. of ships and merchandise under the American flag, during the career of the Alabama*, and the other vessels named. The Commission met at Geneva, 1872. The damages claimed amounted to £9,476,166 13s. 4d. The damages awarded (including interest) were £3,229,166 13s. 4d. All the Commissioners agreed to award damages for the injuries done by the *Alabama*; four (out of five) for those done by the *Florida*; and three for those done by the *Shenandoah*. Sir Alexander Cockburn (British Commissioner) pub. his reasons for dissenting as to the last two vessels, in a very able document. It was considered afterwards that about £1,250,000 too much had been awarded; and the whole award was based upon a new *ex post facto* International Law, created by the Treaty of Washington, concluded in 1871.

Now of the amount paid by the English Gov. to the U.S., it is known that a considerable sum has not been applied to the purposes for which it was assigned in the original claim. The U.S. Gov. appointed a Commission to deal with the claims intended to be paid. This Commission arranged the claims in classes, viz. :—1. Claims directly resulting from damage done on the high seas by Confederate cruisers. 2. Claims for payment of prem. for war risks, whether paid to corporations, agents, or individuals, after the sailing of any Confederate cruiser. 3. Claims for sums actually paid for insured property destroyed on the high seas by such Confederate cruisers, except claims for which judgments have been already entered. Judgments entered on the first were to be paid before judgments of the second class, and those of the latter before those of the third class. If the amount unappropriated shall be insufficient to pay judgments in full, they were to be paid in proportion and in the same order.

The whole number of claims filed was 1382, for about £2,534,890; of these 1009 were afterwards admitted for amounts aggregating to less than £2,000,000. The Ins. Cos. who paid losses, as also owners who paid war ins. prems., claimed; but their claims were not admitted. The Ins. Cos. received answer that unless they were enabled to show losses on the whole of their war bus., they were to be excluded from participation in award. They claimed to come in under No. 3 of the classes already named. They have since obtained a legislative enactment, which does not seem to help them much—it contains the following clauses :

5. To all such corporations or citizens as aforesaid who had paid a prem. of war risks on vessels and cargoes or other property therein, after the sailing of either of said cruisers, to the amount of such extra or war prem. paid by them, whether they suffered loss by capture of their vessels and property or otherwise, provided that in case of such prems. paid or secured to mutual ins. cos., the indemnity shall be the difference between the prem. paid or secured and the returned accounts or prem. therefor.

6. To all insurers, being citizens or corporations of the United States respectively having insured or re-insured property so destroyed, who shall show an exhibit of their books of account and business that the war prem. actually received by them did not equal in amount the losses paid by them because of property thereafter captured and lost or destroyed by either or all cruisers bearing the Confederate flag; provided that the amount paid to any mutual ins. co. for losses so sustained shall be apportioned by the Co. among the members thereof at the time of the losses paid by them respectively in proportion to the interest then owned by each member thereof; and provided, further,

that no insurer shall have any claim or right in claims of any assured therein provided for because of any assignment either in law or fact, unless such assignee had actually paid adequate consideration therefor other than underwriting pol. or settling or paying any loss claimed by the assured, or unless such assignment was made a part of written contract of ins. before the pol. was underwritten in express terms.

There were 4 other sections to the measure, prescribing how losses should be ascertained, how claims should be presented and prosecuted by petition to the U.S. Circuit Court, and how judgments should be paid by the Sec. of the Treasury on the certificate of the Circuit Court. If after all certificates are paid in full there is any sum left, it is to be returned into the Treasury of the U.S.

It seems clear that if the money still in the Washington Treasury be not applied for the purposes for which it was obtained, or any of them, it should be returned to the British Exchequer; and this prob. will be the final result. It has large accumulations of int., and is said now (1878) to amount to not less than £2,000,000 stg.!

GENEVA CONVENTION: "For the succour of the wounded in time of active warfare."

—Founded in 1864 under the following circumstances. M. Henri Dunant, a Swiss, having been an eye-witness of the horrors of the battle-field of Solferino, 24th June, 1859, he pub. his experiences, which induced the *Société Gênévoise d'Utilité Publique* in Feb. 1863, to discuss the question whether Relief Soci. might not be formed in time of peace to help the wounded in time of war, by means of qualified volunteers. At an International Conference held the 26th Oct. 1863, 14 governments, including Gt. Britain, France, Austria, Prussia, Italy, and Russia, were represented by delegates. The propositions then drawn up were accepted as an International Code by a Congress which met at Geneva 8th Aug. 1864; and on the 22nd Aug. a Convention was signed by 12 of the delegates, and it was eventually adopted by all civilized powers except the U.S.

1867-9.—International Conferences were held in Paris and at Berlin in these years for further developing in a practical manner the objects of the Geneva Conference: hence the formation of the International So.—best known as the "Red Cross So."

1870.—So. very energetic in relieving the wounded and sick during the Franco-German War—its flag being recognized as neutral. Above 13,000 volunteers were said to have been employed in attending the sick and wounded during the period Sept.—Dec. this year.

The "National So. for Aid to the Sick and Wounded" was founded in England on 4th August to follow out the principles of the Geneva Convention, and very large sums of money have been contributed for its purposes. Many of the volunteers already spoken of were, we believe, sent out by this So. [NATIONAL SO. FOR AID, ETC.]

1872.—At a meeting in London, 6th Aug. this year, M. Dunant proposed a plan for the uniform treatment of prisoners of war. [WARFARE.]

GENEVA (DRINKING OF), INS. FROM THE CONSEQUENCES.—Geneva, we presume, was during the 17th and beginning of the 18th centuries a very favourite, and likewise a very potent "tippie." On no other supposition can we account for the fact of the projection, by Messrs. Plummer and Petty, during the period of the South Sea mania (1710-20), of an Ins. Co. to indemnify from death by reason of drinking it. It was followed by a proposal for a "Rum Ins.," by which it may be inferred that Rum was also one of the vices of the age. [INTEMPERANCE.]

We have no precise details of either of these projects, which were of course purely speculative.

GENOA.—An important maritime city in Northern Italy, of very considerable antiquity. Its inhabitants were the Ligures, who submitted to the Romans B.C. 115. It partook of the Revolutions of the Roman Empire. It became a Free Commercial State about A.D. 1000. It was frequently at war with Pisa, and destroyed the naval power of the latter at Melora in 1284. Hallam says: "The early history of Genoa, in all her foreign relations, is involved in that of Pisa. As allies against the Saracens of Africa, Spain, and the Mediterranean Islands; as co-rivals in commerce with these very Saracens, or with the Christians of the East; as co-operators in the great expeditions under the Banners of the Cross; or as engaged in deadly warfare with each other, the two Republics stand in continual parallel. From the beginning of the 13th century Genoa was, I think, the more prominent and flourishing of the two."

Her commercial and maritime prosperity may be said to date from the recovery of Constantinople by the Greeks, in 1261. The Genoese became greatly jealous of the Venetians; vied with them in commerce; contended with them for at least the maritime dominion of the greater portion of the Mediterranean, including the Gulf of Venice. They (the Genoese) obtained possession of the suburb of Pera or Galata; and from thence they often defied the Greek capital itself. By this means Genoa extended her commerce into the Black Sea, with a principal factory at Caffa, on the Crimean peninsula. Her armed galleys and intrepid seamen hence had convenient and commanding stations. Her usual fleet was from 70 to 90 galleys. She soon extended her commerce. We find mention in the reign of Edward II. of Genoese ships trading to Flanders and England. She is said to have had a system of banking for the accommodation of merchants even as early as the 12th century. This developed into the famous "Bank of St. George," renowned in the hist. of commerce; and which only failed as recently as 1750.

Sir Walter Raleigh, in his *History of World*, says: "In former ages the city of Genoa, as appears by their ancient records and sumptuous buildings, had a vastly extended commerce, whither all nations traded, being the storehouse for all Italy and other parts. But after they had laid so great a custom as 16 p.c., all nations left trading with them, which made them give themselves wholly to *Usury*"—i.e. advancing money on Bottomry?

But in more modern days the commerce of the city has again revived. She is alive with energy, while her late rival—Venice—sleeps in inactivity.

In the light of these facts we may be sure that this ancient city has an important Ins. history. It has; and we shall endeavour to unravel this under our next title.

GENOA, MARITIME AND INS. STATUTES OF.—That Genoa, which at a very early period shared with Venice, Pisa, Marseilles, and Barcelona, the commerce of the Mediterranean, then had special statutes for the regulation of its maritime affairs, is now well known. Semini, in his manuscript memoirs, cites a Genoese Code of 1143, of which there was then a copy in the library of Philip Durazzo. Capmany cites a passage from the Annals of Genoa, under date 1250, which indicates some knowledge of Marine Ins. The Statute of Bologna, enacted prior to 1408, although not printed until 1498, contains a chap. having for rubric, "*De potestate et bailia officii Mercantia*," which has a passage of a similar purport. But the principal of the early statutes for the regulation of home maritime affairs was one passed in 1339. [AVERAGE, MARITIME.]

In the 13th century Genoa, having for some time traded in the Black Sea, had obtained the right to possess a suburb of Constantinople, known under the double name of Galata and Pera. At a later period a commission was appointed to regulate the maritime affairs of this settlement; and this commission promulgated a series of statutes commencing in 1313 and continued till 1344. The manuscript of these was for a long time preserved in the Bank of St. George. These statutes appear to have been revised in 1403; they certainly were in 1441, when the title was given to them of *Officium Gazariae*. For a period these statutes appeared to regulate the entire maritime commerce of the Genoese; but upon this settlement of the Black Sea being lost to Genoa, she fell back upon the Statute of 1339.

1588.—The Genoese undertook the composition of a new Civil Statute. Some chapters were inserted in it relative to Jettison and Ins. But (says Mr. Reddie), from the silence of this Code on other maritime matters, we may conclude that the principal regulations of the *Statuta Gazariae*, relative to the police of navigation and seafaring people, so far as they had not become useless, or fallen into desuetude, from more enlarged experience and the changes of circumstances, continued to be observed by the magistracy, conservators of the sea. The necessity, however, of estab. more precise rules, of such a nature as to prevent frauds and other abuses relative to loans of money on maritime risks, appears to have been felt and recognized.

1610.—There was promulgated the "Civil Stat. of the Republick of Genoa"—book iv. c. xvi. of which treats of "Jettison, and how to behave on such occasions." [JETTISON]; while c. xvii. is "Concerning Assurances"; and the provisions we here find demand our best attention—they show an advancement in knowledge of the essential requirements of the contract which has not since been surpassed. We shall quote the early passages of this chap., and draw attention by means of *italics* to the points of primary interest:

146.—No assurance shall be made *if the name of the person that causes the same to be done is not clearly and expressly mentioned in the pol., before any assurer underwrites it; nor shall a blank space be left in the pol., to fill up the name:* for in that case the same shall not be valid, nor the assu. of any effect.

Nobody shall make any assu. either for himself or another, *when no risk is run, either upon goods, ship, or other things*, whether the assu. be made mediately or immediately, openly or privately.

147.—Nobody is to assure for *more than the sum or value of the risk, or at what it may be valued*, exclusive of the prem. of assu., which shall not be deemed to be included in the assu. if it is not expressly agreed.

148. When the value of the goods, or any other thing insured, has not been fixed between the parties, and a loss happens before half the voyage is performed, the said value shall be understood to be the prime cost, with the add. of all charges till on board of the ship; but if such accident happen after half the voyage is past, then to be valued at the rate of what they would fetch at the place they were bound to.

149. When assu. has been made for a larger sum than the risk amounts to, either because the same was done at different places, or for any other reasons, then those that underwrote first in point of time shall be deemed to have run, and to run the risk, and the prem. to be returned to the remainder; but of those that underwrote at the same time, each of them shall be answerable for the sum he has signed.

150.—It shall not be deemed a misfortune, unless the ship insured, or the goods on board on which the ins. is made, are by some unforeseen accident reduced to such a condition that it is impossible by human endeavours to repair them within a certain time to be limited by the Consul of the nation residing at the place, or if none such be there, by the magistrate; which time, however, shall not exceed one month, unless it be for a weighty reason, or accident, or when the ship is arrested and detained by command of the supreme authority in the place, in such a manner that it is obliged to alter the voyage, and to unload the goods that are insured.

151.—The assured may upon all and every unfortunate accident, according to his own choice, either demand the full assurance, and abandon the effects assured to the assurers, whose property they shall be in such case, or else he may make up an account of the damage according to the directions prescribed in these chapters. If it should appear that the loss amounted to 50 p.c., then the assurers may either pay the full sum assured, and take the insured effects to themselves, or pay the loss, as it is demanded, and leave the goods assured to the assured. The assurers shall in these and all other cases, when a reasonable average for making good damages is demanded, have the liberty of choosing, whether what is insured remain in the whole, or in part only.

152.—If the assurers do not come to an agreement with the assured, according to practice allowed, they shall be bound to make good, in conformity to the statutes, the jettison that has been made and can be proved, as likewise the average (in which all the damage arising from any unlucky accident that may befall the ship, its appurtenances, or the goods insured are included) over and above the charges which shall appear to have been occasioned by such accident, if it can be demonstrated that the same were upon the whole, in general, such a proportion as falls to the share of the things insured, whether it be of the jettison or average.

153.—All insurances made after the time that a misfortune has happened, *which upon due proof shall appear to have been already known by report, or which probably might have been known, shall be void and of no effect, and the prem. be returned. It shall be looked upon, that in all likelihood such advice was received, if the assu. was concluded within such a space of time, that in the meanwhile an account could come from the place where the accident happened, to the place where the assu. was made, accounting 2 miles to an hour; but if the same happened at a distance on the sea, and that consequently the advice must come by sea, before it could be known ashore, then the time is to be calculated in the above-mentioned manner from the place where the account first came to.*

154.—The assurers shall not be answerable for any wilful barratry of the master, unless it be specially agreed between them. See the laws made on this head Anno 1610, Feb. 25, in the Book of Criminal Statutes, fo. 222.

Then follow the regulations against gambling ins. on lives, etc., which we have already given in full under title GAMBLING INS.

1664.—The Conservators of the sea made proposals to the Legislative Council of the Republic, in view of consolidating the law relating to loans on maritime interest; and about 1688 a stat. was enacted upon the subject, which appears to have been renewed in 1707. Mr. Reddie says:

Although, however, the different stat. now and formerly noticed, as pub. by M. Pardessus, contain a great number of regulations in detail, they present great gaps and deficiencies in the system of maritime law; and there can be no doubt that the Roman law, and particularly the Consolato del Mare, formed the principal basis of the maritime jurisprudence of the Genoese.

This position he considers estab. by reference to the collection of the judgments of the Supreme Civil Tribunal of Genoa—*Decisiones Rotæ Genuensis*. [GENOA, ROTA OF.]

1805.—On the annexation of Genoa to the French Empire this year, the provisions of the *Code du Commerce* came into force, and remained so until 1814. It was the same in Florence, Pisa, and Leghorn. The sovereign of Piedmont afterwards adopted this Code, and confirmed it as the maritime law of his subjects; and this seems to have continued through the later changes of the nationality of the city.

1877.—About this date a system of Regulations for Marine Ins., as supplementary to the Code, was promulgated.—*Review*, 1877, p. 457.

GENOA, ROTA OF.—The Supreme Civil Court of this city was known as the “Rota.” The judgments of this Court in Maritime cases were first pub. in 1582 under the title of *Decisiones Rotæ Genuensis*, and show how extensively Ins. questions had become a source of litigation even at this early period. A new edition appeared in 1622, from which Roccus drew very largely in his learned treatise.

In 1669 there was pub. in *Amsterdam* a new ed. entitled *Decisiones Rotæ Genuæ de Mercatura*, which included also the works of Santerna, and of Straccha. The decisions given here amounted to 215; and many of them relate to Ins. questions, and the principles they settled still prevail in our Courts and in the U.S. [ARREST OF A SHIP.]

Mr. Reddie said, “These decisions themselves constitute a body of judicial determinations unfolding the rules of the Common Law, perhaps as valuable as any legislative code of these times.”—*Maritime Commerce*, 1841, p. 284.

GENTLEMAN’S MAGAZINE.—In this important publication, which was commenced in 1731, have from time to time appeared many articles and incidents bearing upon the hist. or practice of Ins. These are mentioned under their appropriate heads, and need not be enumerated in detail here. Of late years the character of the publication has entirely changed; although even now Ins. is not neglected.

GEOGRAPHICAL DISTRIBUTION OF DISEASES.—This subject fell to be considered when we were treating of DISEASE, and was in the main reviewed under that head (see 1859), and under DISEASES, GEOGRAPHICAL DISTRIBUTION OF. It was also further incidentally treated under DISEASES, REGISTRATION OF; and spoken of indirectly under CLIMATE. It will receive further elucidation under title of HEALTHY DISTRICTS; and a more complete review under the general heading LOCALITY, INFLUENCE OF. All we have here to do is to notice one or two applications and publications specifically identified with this title.

Two other designations are sometimes almost indiscriminately applied to the same class of facts, viz. “GEOLOGY OF DISEASES;” and “HYGIENIC TOPOGRAPHY.” This latter, which is used by Dr. Farr, seems to lead up to PUBLIC HEALTH, where it will be considered, in due course.

1853.—Mr. A. G. Finlaison, then “Gov. Act.,” presented his Rep. on the Sickness and Mort. Experience of the members of Friendly Sos. in E. and W. For his purposes he apportioned the country into 8 separate provinces, and reviewed the peculiarities of each, as bearing upon the health and longevity of its inhabitants. Full details of his results have already been given under FRIENDLY SOS., MORT. AND SICKNESS EXP. OF.

1871.—Mr. Alfred Haviland, Lecturer on the “Geography of Disease,” at St. Thomas’s Hospital, pub.: *The Geographical Distribution of Heart Disease and Dropsy in E. and W., illustrated by a large Coloured Map.* He shows therein the proportions which these

diseases bore to other diseases and to the total deaths during the 10 years 1851-60; and he indicates the districts wherein these diseases most predominated. The results will be reviewed in detail under HEART DISEASE. (See 1876.) [ELEVATION.]

1875.—In the *Supplement to the 35th Ann. Rep. of the Reg.-Gen. of Births, Deaths, and Marriages in England*; and which embraces obs. over the whole of the Registration Districts during the period 1861-70; Dr. Farr refers to many of the points which fall for consideration in this connexion; and traces their varied influences through the districts which constitute the 11 divisions of E. and W. These will be reviewed under LOCALITY and PUBLIC HEALTH.

1876.—Mr. Alfred Haviland pub. his now well-known work: *The Geographical Distribution of Heart Disease and Dropsy; Cancer and Phthisis in Females in E. and W. Illustrated by six small, and three large Coloured Maps*. Towards the preparation of the "Basis map" a grant was made by the Treasury, on the recommendation of the Regis.-Gen.—showing the value which was attached to the investigation contemplated. The author, who now holds the position of "Medical Officer of Health to the combined Sanitary Authorities in the counties of Northampton, Leicester, Rutland, and Bucks," says in his preface:

I believe that the mode I have adopted, of studying the topography of disease, will be found of essential service, not only to Medical Officers of Health, but to all who are interested in the progress of sanitary science; and having carried it out fully in my own large area, I can safely say that by its means I have derived much valuable etiological information as to its prevalent diseases, and in a shorter time than I could possibly have done by any other mode of investigation.

Whatever study gives us a clue to the etiology of a disease, at the same time aids us in our endeavours to prevent it. It is for this reason that I look upon the investigation connected with the geographical distribution of disease as essential to a practical knowledge of preventive medicine: for it involves the study of the physical, geological, meteorological, and other natural and social characters of the county or district, the diseases of which are the subject of inquiry.

The maps illustrating this work, which comprises the distribution of heart disease, cancer, and phthisis, are based upon more than half a million of deaths, during a period of 10 years.

I now leave my work in the hands of my professional brethren, hoping that it may render them some assistance in that part of our practice upon which our knowledge has always been more or less imperfect. . . .

I trust that my labours, however incomplete, may stimulate others to collect facts relative to the localization of disease, and record them; so that in time to come, the practical fruit borne by the study of its geographical distribution, shall enable it to take that high position in medical science, of which it was considered so worthy two thousand years ago by the great Father of Medicine, Hippocrates.

He then leads us through the different registration divisions, counties and districts of our country, showing us not only the prevalence or otherwise in each of the several diseases under obs., but the *rationale* of the thing—why it is as it is, so far as scientific research has yet revealed the causes. In much of this we shall follow him in other parts of this work. We now propose simply to present his conclusions to our readers—wherein the points involved are brought home to our very doors:

. . . I think it will be conceded that the study of the geographical distribution of disease is one of paramount importance, not only to the medical profession, but to the public at large. This study will teach us to ponder before we select a place wherein to dwell, either for our own sake or for that of our families. Parents seeking a school for their children, certainly ought to consult their professional adviser, whose personal knowledge of his patients and of the diseases to which they are either heirs or otherwise prone, will enable him to recommend localities the most suitable, provided he has studied the general principles on which the distribution of certain diseases and causes of death depends. Without doing so, all would be guesswork and haphazard, whatever advice he might give.

To persons having hereditary disease like cancer or consumption, it is of vital importance that they should make no mistake in the selection of a site for their residence; on this, however, I have already dwelt, and therefore shall not enlarge further on this subject.

By *Ins. Cos.* the study of disease-distribution ought not to be disregarded; on the contrary, from the opinions expressed by many eminent actuaries, I am inclined to think that it will prove of essential service to these institutions. Let us take a simple case. A proposal is made to effect an ins. The medical examiner ascertains the locality in which the proposer resides or intends to reside, where he was born, and where his parents resided and were married; in fact he informs himself of the local surroundings, not only of the proposer, but of his parents. After doing this he would consult maps of disease-distribution, and ascertain whether the person before him had been or was likely to be favourably circumstanced with regard to locality, so that he should have every chance of living his full time. Suppose that he finds a female whose mother has died of cancer is living in a locality favourable to the development of this disease, he certainly would not look upon such a life without suspicion. On the other hand, if she had resided, and was likely still to reside in a high, dry locality where cancer is known not to thrive, he might regard the case in a different light—especially if the proposer had been living for some years under such favourable circumstances.

What is applicable to cancer is equally so to many other diseases, and I need add little more on this subject. In the case however of heart disease it would be evident that a person subject to rheumatism, if he desire to make a good life, should cease to dwell in sleepy hollows, however grand the mansion, and however lovely the surrounding wooded scenery may be, that shuts out the prevailing winds and stores up the chilling emanations at night.

When once the colouring of the maps is learnt, their teachings will prove to be simple and easily remembered; and I sincerely hope that what they teach will be of service to those who consult them.

In the course of an interesting address delivered before the American Public Health Association, at Boston, U.S., this year, by Mr. James T. Gardner, Director of the New York State Survey, the speaker emphatically remarked: "From the united results of topographical, geological and sanitary surveys of a large area, I believe it possible to deduce, with absolute certainty, the principal causes of prevailing diseases, and to point out

practical remedies that will reduce the death-rate one half its present amount, and banish from the world an untold weight of suffering and sorrow.

1878.—Prof. Goldwin Smith delivered a lecture at the Royal Inst. on the *Influences of Geographical Circumstances on Political Character.*

GEOGRAPHY OF HEALTH.—See GEOGRAPHICAL DISTRIBUTION OF DISEASE. [LOCALITY.] [PUBLIC HEALTH.]

GEOLOGICAL SYSTEMS, THEIR INFLUENCE UPON HEALTH AND DISEASE.—The considerations presented under this title are but supplementary to those presented in connexion with the geographical distribution of disease. But this goes to the *causes*, while the preceding but presents the *facts*. Anything like a scientific investigation of the subject is out of the question here. We shall only attempt to indicate the important conclusions which may be expected by those who enter upon it earnestly. It is a necessary portion of the large range of inquiry arising out of the consideration of the PUBLIC HEALTH.

1869.—A most interesting paper was read before the Geological Society of Lond. by Mr. Whitaker, B.A., F.G.S.: *On the Connexion of the Geological Structure and Physical Features of the South-East of England with the Consumption Death-Rate*, in which the author drew the following conclusions: 1. That on pervious soils there is less consumption than on impervious. 2. That on high-lying pervious soils there is less consumption than on low-lying pervious soils. 3. That on sloping impervious soils there is less consumption than on flat impervious soils. 4. These influences must be put along with the other fact, that artificial removal of subsoil water alone, of various sanitary works, has largely decreased consumption.

1871.—At the meeting of the British Asso. held at Edinburgh this year, Dr. Thomas Moffat, M.D., F.G.S., F.R.A.S., F.M.S., read a paper *On Geological Systems and Endemic Disease*, of which the following is an abstract. The district in which the author resided [Hawarden, Cheshire] consisted geologically of the Carboniferous and of the New Red or Cheshire Sandstone systems; that the inhabitants of the former were engaged in mining and agriculture, and those of the latter in agriculture chiefly. Anæmia, with Goitre, was very prevalent with those on the Carboniferous system, while it was almost unknown among those of the Cheshire Sandstone, and phthisis was also more prevalent among the former than the latter. As anæmia was a state in which there was a deficiency in the oxide of iron in the blood, he was led to examine chemically the relative composition of wheat grown upon a soil of Cheshire Sandstone, Carboniferous Limestone, Millstone Grit, and a transition soil between the Cheshire Sandstone and the Grit; and the analysis showed that wheat grown upon Cheshire Sandstone yielded the largest quantity of ash, and that it contained a much larger quantity of phosphoric acid and oxide of iron than that grown upon the other formations. He calculated that a dweller on the Cheshire Sandstone who consumed 1lb. of wheat daily, grown upon the latter formation, took in nearly 5 grains more per day of oxide of iron than one who dwelt on the Carboniferous system who did the same. The analysis showed also that the wheat grown upon the Carboniferous system was deficient in phosphates or nutritive salts; and one who consumed 1lb. of Cheshire wheat per day took in 9 grains more of phosphoric acid than one who took 1lb. of wheat grown upon the Carboniferous system.

He had endeavoured to ascertain whether the bread of those who dwelt upon the two systems was relatively as deficient in these important nutritive elements as the wheat grown upon them. He had collected 20 samples of bread used by 20 different families living upon each system, and analysis afforded results as conclusive as the examination of the wheat. The deficiency of the nutritive salts in bread compared with those in the wheat was very remarkable; and it was no doubt owing to the removal of the bran from the flour with which the bread was made.

The writer then gave some statistics as to the diseases prevalent in the counties of Chester, Flint, and Denbigh; and stated that the practical deductions to be drawn from the inquiry were, that all persons living on a Carboniferous formation having symptoms of incipient goitre and anæmia, ought to be moved to a soil upon Red Sandstone; and persons of strumous habit ought to reside upon Sandstone at an elevation of at least 800 or 1000 ft. above the sea. Further, that both classes of persons should live upon food, both animal and farinaceous, which contained the maximum quantity of oxide of iron and the phosphates or nutritive salts. Medical men could not too much impress upon the minds of the public the importance of using flour made from the whole of the wheat or whole grain.

These conclusions lend force to our introductory remarks on FOOD.

1875.—There was pub. by Mr. Wm. Whitaker, B.A., F.G.S., *The Guide to the Geology of London and the Neighbourhood*. Mr. Alfred Haviland says: "This admirable work is an explanation of the Geological Survey Map of Lond. and its Environs, and of the Geological Model of Lond. in the Museum of Practical Geology, which is well worthy of a long visit, and an attentive study." [SOIL.]

GEOMETRICAL PROGRESSION.—A series of numbers, each of which is obtained from the preceding one by multiplication or division by a constant number called the common ratio—as 2, 4, 8, 16, 32; or 32, 16, 8, 4, 2.

1825.—Mr. B. Gompertz, in his paper, *On the Nature of the Function expressive of the Law of Human Mort.*, etc., 1825, pointed out that the law of Geometrical Progression pervaded in an approximate degree large portions of different T. of Mort.—“during which portions the number of persons living at a series of ages in arithmetical progression will be nearly in geometrical progression.” And he instanced *Deparcieux's*, and the *Carlisle T.* Regarding the latter he says we shall find “the number of living at each successive year from 92 up to 99, forms very nearly a geometrical progression, whose common ratio is $\frac{3}{2}$” In his 2nd chap. he says:

The near proximity to the Geometrical Progression of the series expressing the number of persons living at equal small successive intervals of time during short periods, out of a given number of persons living at the commencement of those intervals, affords a very convenient mode of calculating values connected with life contingencies for short limited periods: by offering a manner of forming general T., applicable (by means of small auxiliary T. of the particular mortalities) to calculations for any particular mort.; and by easy repetition, to calculate the values for any length of period for any T. of Mort. we please.

And he proceeds to give instances. The estab. of such a position was a necessary foundation for the development of his hypothesis, then in incubation. [GOMPERTZ HYPOTHESIS.]

1863.—Mr. Woolhouse contributed to the *Assu. Mag.* (vol. xi. p. 150) a paper: *Note on the Possibility of the Division of the Law of Mort. into Geometric Series*, wherein he says:

If the series of the numbers living which constitute the law of mort. could be approximately derived, by collecting together the corresponding terms of a limited number of geometrical progressions, it is evident that the mathematical formula involving any combination of life contingencies and of the interest of money would expand into a certain number of geometrical series, the summation of each of which might be easily expressed. Such a result, as a general principle, would not appear to be allowable so far as can be judged by an example I have been induced to test with the *Carlisle T.*

And this he proceeds to demonstrate.

The theory of Geometrical Progression as applied to the increase of pop. will be more conveniently discussed under POP. Some of its fallacies in this connexion are pointed out by Dr. Farr in Supp. to 35th Rep. of Reg.-Gen. p. xi. [LIFE CONTINGENCIES.]

GEORGE, FRANCIS W. J.—Resident Sec. in Leeds for *Consolidated Fire*, since 1878.

GEORGE, JAMES.—Was Sec. of *People's Provident* for several years before 1865.

GEORGETOWN (DEMERARA).—This important depôt for West India produce suffered from two very destructive fires in 1864, one on 3rd April, the other on 5th July, of which details are given under FIRES, Gt.

GEORGIA, U.S., INS. LAWS OF.—This (one of the orig. States of the Union) has a code of regulations for the admission of the Ins. Cos. of other States, and Foreign Cos., of which the following is a short abstract:—*Admission.* Every Co. seeking admission must deposit with the Comptroller of State a copy of its Charter or Act of Incorpor.; and also a statement of its condition on the 31st Dec. preceding, under oath.—*Certificates and Agents.* Certificates of authority to transact bus. in the State are issued to Cos. complying with the laws annually. Agents must have licence.—*Funds.* Every Fire, Life, or Marine Ins. Co. seeking to transact bus. in this State must possess at least 100,000 dol. invested in Bonds or Stocks.—*Ann. Statements.* These to be filed on 1st Jan. each year, or within 60 days thereafter.—*Fees.* For filing each statement 7½ dol.; for agents' certificates 2½ dol. Also reciprocal regulations.—*Taxes.* Statement to be made on oath before 1st May, each year, showing total amount of premis. received in State; and 1 p.c. thereon to be paid before 1st Oct. Reciprocal provisions as to taxes.—*Penalties.* For violating any of preceding provisions not less than 100 dol. or more than 500. For non-payment of taxes, 500 dol.

GERANT.—The responsible manager of a Joint-Stock Co. in France; and under the Law of France his liability remains unlimited.

By the Cos. Amendment Act, 1870—30 & 31 Vict. c. 131—power was given to apply the principle of unlimited liability to the directors and managers of Cos. founded in the U.K. We have not known of its adoption in any case. See secs. 4 to 8.

GERDEN, WM.—Was Sec. of *Bon Accord Marine* for some years.

GERM.—A generation.

GERM THEORY OF DISEASE.—Under DISEASE, GERM THEORY OF, we have already given a brief outline of this. We have only a note of later developments to add.

1876.—Prof. Tyndall opened the winter course of scientific lectures at Glasgow, and chose for his subject “The Process of Fermentation”; and in connexion therewith discussed the germ theory of epidemic disease. Two hundred years ago, he said, Robt. Boyle wrote in his essay on the Pathological Part of Physic, “that he that thoroughly understands the nature of ferments and fermentations shall probably be much better able than he that ignores them to give a fair account of divers phenomena of several diseases (as well fevers as others) which will, perhaps, be never properly understood without an insight into the doctrine of fermentations.” But it was only in this our day that men were beginning to realize the truth of these pregnant words. In the domain of surgery, Prof. Lister, of Edinburgh, had demonstrated in his antiseptic treatment that the putrefaction of wounds was to be averted by the destruction of bactria. Passing from surgery to the domain of medicine, he said the conviction was spreading and growing daily in strength, that

reproductive parasitic life was at the root of epidemic disease—that living ferments finding lodgment in the body increased there and multiplied, directly ruining the tissue on which they subsisted, or destroying life indirectly by the generation of poisonous compounds within the body. This conclusion, which came to us with a presumption almost amounting to demonstration, had been clinched by the fact that virulently infective diseases had been discovered with which living organisms were as closely and as indissolubly connected as the growth of *torula* was with the fermentation of beer. And here he wished to utter a warning to well-meaning people. We had now reached a phase of this question when it was of the very last importance that light should once for all be thrown upon the manner in which contagious and infectious diseases take root and spread. To this end the action of various ferments upon the organs and tissues of the living body must be studied, the habit of each special organism concerned in the production of each specific disease must be determined, and the mode by which its germs are spread abroad as sources of further infection. It was only by such rigidly accurate inquiries that we could obtain final and complete mastery over these destroyers. Hence, while abhorring cruelty of all kinds, while shrinking sympathetically from all animal suffering—suffering which his own pursuits never called upon him to inflict, an unbiassed survey of the field of research now opening out before the physiologist caused him to conclude that no greater calamity could befall the human race than the stoppage of experimental inquiry in this direction. A lady whose philanthropy had rendered her illustrious said to him some time ago that science was becoming immoral; that the researches of the past, unlike those of the present, were carried on without cruelty. He replied to her that the science of Kepler and Newton, to which she referred, dealt with the laws and phenomena of inorganic matter, but that one great advance made by modern science was in the direction of biology or the science of life, and that in this new direction scientific inquiry, though at the outset pursued at the cost of some temporary suffering, would in the end prove a thousand times more beneficent than it had hitherto been. It was exceedingly important that such assemblies as that which he was addressing should see clearly the issues at stake in such questions as this, and that the properly informed common sense of the community should temper, if not restrain, the rashness of those who, meaning to be tender, would virtually enact the most hideous cruelty by the imposition of shortsighted restrictions upon physiological investigation. It was a modern instance of zeal for God, but not according to knowledge, the excesses of which zeal an instructed public opinion must correct. [VIVISECTION.]

1878.—There was pub.: *The Germ Theory of Disease*, by T. J. MacLagan, M.D., Examiner in Practice of Medicine and Pathology to the University of Aberdeen. [INFECTION.]

GERMANY [*Deutschland*; Latin *Germania*; French *Allemagne*; Spanish *Allemania*].—To write a connected hist. of Ins. in the Empire of Germany is a task attended with many difficulties. The Empire itself has been passing through a succession of changes more or less rapid during its progress towards consolidation, which final event—assuming it to be final—has only been accomplished as recently as 1871. Previous to that it was a political rather than a geographical union; and even now, and for a long time to come, the several States are and will be identified with the particular events constituting their individual histories: and the national history will be in the future, not in the past.

In the matter of Ins. the Associations are especially local. Hamburg for instance, until recently a Free City, has an Ins. hist. entirely its own, unassociated with any other portions of Germany, except in so far as that important confederation the "Hanseatic League" brought its commercial usages into conformity with those of *Lubeck*, *Königsberg*, and *Bremen*—not indeed with these other "Free Cities" of Germany any closer than with Antwerp, Rouen, and the other Hanseatic trading ports of Europe. It is essential to the plan of our work that these great emporiums of commerce be treated separately, and that the Ins. Ordinances and Customs originating or obtaining in them during long periods of time shall be here associated with them. So also several of the Cities and States which have identified with them specific mortality investigations and other Ins. incidents—as *Breslau*, *Brandenburg*, *Oldenberg*, and even *Berlin* itself—require to be spoken of separately, under their alphabetical headings. Viewed in this sense, what we have to say under the title of *Germany* is in some part but a reflex, or reference, or perchance an amplification, of facts and incidents spoken of under the several heads to which they more particularly belong.

There is yet another view, and that is to regard *Prussia* as being Germany—as she indeed constitutes the more prominent portion of the Empire alike in territory and in pop.—and to proceed upon that assumption. This course we shall adopt. Austria having been shut out of the German Confederation in 1866, we omit as far as possible all reference to her; but this can only be partially accomplished. We have already briefly reviewed her Ins. hist. under the alphabetical title.—See also TRIESTE and VIENNA.

Area and Population.—Germany (United) now consists of 25 States, and of the Reichsland of Alsace-Lorraine, which are arranged in the order of their areas, supplemented by the numbers of their respective pop., and the density of the same:

STATES OF THE EMPIRE.	Area English Square Miles.	Population. Dec. 1, 1875.	Density of Pop. per English Square Mile.
1. Prussia	137,066	25,742,404	188
2. Bavaria	29,292	5,022,390	170
3. Württemberg	7,675	1,881,505	245
4. Saxony.....	6,777	2,760,586	407
5. Baden	5,851	1,507,179	257
6. Mecklenburg-Schwerin.....	4,834	553,785	114
7. Hesse	2,866	884,218	307
8. Oldenburg	2,417	319,314	132
9. Brunswick	1,526	327,493	214
10. Saxe-Weimar	1,421	292,933	206
11. Mecklenburg-Strelitz.....	997	95,673	95
12. Saxe-Meiningen	933	194,494	208
13. Anhalt	869	213,565	245
14. Saxe-Coburg	816	182,599	223
15. Saxe-Altenburg	509	145,844	286
16. Waldeck	466	54,743	117
17. Lippe	445	112,452	256
18. Schwarzburg-Rudolstadt	340	76,676	225
19. Schwarzburg-Sondershausen	318	67,480	212
20. Reuss-Schleiz	297	92,375	311
21. Schaumburg-Lippe	212	33,133	155
22. Reuss-Greiz	148	46,958	317
23. Hamburg	148	388,618	2625
24. Lubeck	127	56,912	448
25. Bremen	106	142,200	1345
26. Reichslands of Alsace-Lorraine	5,580	1,531,804	227
Totals and Average	212,091	42,727,360	201

This T. we obtain from Martin's *Statesman's Year-Book*, 1878, where many details regarding Germany will be found, which it does not fall within our province to reproduce. Under sub-heading *V. Statist.*, sub-sec. *Pop.*, will be found some details of interest regarding the growth of the pop.

Physical Features.—The Empire consists of two large territories almost completely isolated from each other, and several smaller territories also isolated. Speaking of these separately—1. *Eastern Division.* This may be described generally as a vast plain, considerably elevated in the S. and S. W., and thence descending at first rapidly and afterwards very gradually towards the Baltic and the German Ocean. The loftiest summits are on the southern frontiers of Silesia, but these are only some 2200 ft. in height, with wild and romantic scenery; lowering northward to an average of 900 ft.; after which the surface loses its hilly character and begins to form extensive plains. In the S. W., the only other quarter which can be considered mountainous, ramifications of the Thuringian forest and the Harz appear, and cover a considerable portion of the S. part of the province of Saxony; but here the average height does not exceed 1000 ft., and soon diminishes to less than 500 ft. The large space extending between the N. foot of these mountain districts and the shores of the Baltic approaches a monotonous flat, alternating in healthy and swampy flats, diversified occasionally by scenes of natural beauty. The whole coast for some 500 miles is flat and uninteresting; and the sea is only restrained by low sand-hills and banks of gravel which the waves have thrown up: behind which lagoons or Haffs have been formed communicating with the sea by narrow outlets, and giving to the shore one of its characteristic features. The only large gulf is that of Dantzic.—2. *Western Division.* This, which consists of Westphalia and the Rhenish province, differs so much from the Eastern province as to present in many respects a striking contrast to it. It is much more finely diversified. Its mountains, though far less elevated than those on the frontiers of Silesia, are not confined to a particular locality, but stretch across the country in all directions and form numerous valleys: one of which—the Rhine—here occupies no inconsiderable portion of the whole surface, and in point of fertility and beauty is not surpassed by any valley in Europe. In the N. a mountain range of moderate elevation stretches across Minden and Münster. In the N. E. they reach, in the Astenburg, 2625 ft. The range on the E. or right bank of the Rhine reaches about 200 ft.

Rivers and Lakes.—The whole of the Eastern division belongs to the basins of the Baltic Sea and the German Ocean. The principal river which drains it is the Elbe, which enters by Saxony, and quits by way of Holstein, into the German Ocean; its chief

affluents being the Elster, Havel, Mulde, and Saale. The share of drainage received by the Baltic, however, constitutes about five-sixths of the whole, and is conveyed to it by a number of large and independent streams; the most important being the Oder, the next the Vistula or Weichsel. The inland lakes are too numerous to admit of specification. In the Western portion of the Empire the Rhine and its tributaries afford the main outlet for the natural drainage; the chief of the tributaries being the Lahn, Nabe, and Moselle. The Weser is also an important river, draining the north-western portions of the Empire. There are no navigable lakes.

Geology.—In the Eastern division this is very varied, ranging from granite to the transition rocks, down to mountain limestone and chalk, and it is impossible to make any generalization. In the Western division there are no primitive rocks of granite, gneiss, and mica-slate; but are mostly volcanic products. The chalk formation has its largest development in Westphalia.

Climate.—The *Eastern* division, consisting in one direction of mountains, and in the other of flats stretching along the sea-board, and inclosing between them considerable tracts of undulating land, must necessarily vary considerably. At *Erfurt*, situate about 900 feet above the level of the sea, the temperature of the year is $52^{\circ} 1'$,—of winter 34° , and of summer $71^{\circ} 20'$ Fah. At *Berlin*, only 130 feet above the level of the sea, the temperature is the very same—though both the extremes of summer heat and winter cold are somewhat greater. The average of a number of places situated between the highest and lowest latitudes, gives a mean ann. temperature of 52° Fah. At *Berlin* about 160 days of the year are rainy, from 33 to 34 obscured with mist, and 17 stormy. On the coast of the Baltic the stormy days amount to 30, the greater part of them in summer; and the quantity of rain is also much increased. Least rain falls in Silesia and the Eastern provinces. The prevailing winds are W. and S.W. In the *Western* division, within the same ranges of latitude, and at nearly equal heights above the sea-level, the climate is superior to that of the East. The mean ann. temperature is about 1 degree higher; the winter is milder, and the summer cooler; and the range of the thermometer is accordingly confined within narrower limits. The fall of rain, however, is greater, averaging 20 inches in the West, and only 15 in Silesia and the E. provinces. This is not regarded as a disadvantage; and it tends to make the vegetation more luxuriant.

Agriculture.—The whole Empire is situated between the parallels of latitude under which all the ordinary cereals are easily matured; and there is nothing in the elevation of the surface (except in a few particular localities) to unfit it for general cultivation.

Manufactures.—These are not confined to any one province or state, but extend in a greater or lesser degree through the entire Empire—making wonderful progress generally.

Race.—The inhabitants of Germany belong to two principal stocks—Teutonic, or Germans proper, and Slaves. The latter, who originally entered the Empire from the East, are most confined to the Eastern States.

Locomotion.—By means of an extended system of railways, economically constructed and worked, the means of passenger transit is alike convenient and moderate in cost; while by the aid of river and canal navigation, in add. to railways, and the sea-board, the carriage of natural and manufactured products is expeditious and reasonably cheap.

As to *Famines, Fevers, Fires, Floods, Frosts, and Plagues*, see these several heads under their alphabetical titles in this work.

Insurance.—The various branches of Ins. as heretofore or now practised will be spoken of under their several distinctive heads; as also the Legislative Enactments, Literature, and other adjuncts; all arranged alphabetically for greater convenience of reference. *There is good reason to believe that several branches of modern Ins. have originated in Germany—as Cattle Ins., Fire Ins., and Hail Ins.*

Accident Ins.—This branch of bus. is of comparatively recent origin in Germany. It is true that some of the British Cos. have had agencies in a few of the cities for many years; but the bus. they have transacted has been very limited. The first German Cos. undertaking this branch of ins. were the *Thuringia* of Erfurt, and the *Concordia* of Cologne; but they were organized for other branches of bus., and Accident Ins. was only taken up incidentally. They insured travellers and merchants, and in fact did what is technically known in the U.K. as "General Accident" bus.; but also on a very limited scale. This they still continue.

1853.—During this year several cos. were founded for ins. railway officials, and incidentally passengers. These will be spoken of specially under *Railway Ins. Cos.*

1871.—It is to this year we must look for the incident which has led to the rapid development of this branch of bus. in Germany. On the 7 June there was enacted the law known as the *Reich-Haftpflicht Gesetz*. This enactment proceeds upon the assumption that in the case of railways, every accident is caused by some fault in the management; and hence declares the Co. responsible for damages unless it can prove that the occurrence was the result of *force majeure*; or that the persons injured had contributed by their own

negligence thereto. And it further applied the same principles to manufactories, mines, and industrial enterprises generally: holding the employers or responsible managers liable in a like manner. The law in this regard was assimilated to that of *France*. As a consequence the owners, and responsible persons had to invoke the aid of Ins. as the only means by which they could obtain indemnity. [FORCE MAJEURE.]

An extension of this law to other occupations, as to the building trades, and even to agricultural operations, is in contemplation.

The first Asso. founded in view of undertaking the special risks contemplated under the new law was the *Allgemeine Unfallversicherungs Bank* in Leipzig. This was of mutual constitution, and undertook a complete indemnity to employers. Its progress has been rapid, as is shown in the following T.:

	1872.	1873.	1874.	1875.	1876.
Establishments insured	3,432	5,713	6,292	6,534	6,540
Number of persons insured	233,115	361,572	377,565	353,415	327,760
Claims admitted (No.).....	1,119	1,677	1,503	1,397	1,415
Amount of Premium	M. 297,318	587,183	710,927	802,841	872,112
Claims paid and reserved	„ 246,431	459,841	558,427	621,804	656,825
Expenses of management	„ —	180,177	179,563	194,182	186,011

The classification of risks, which was very simple in the beginning, has become more complex as experience has been gained. The growth of the claims paid is a very marked feature.

The date of the organization of this Asso. was 1 July.

The next Asso. was organized 3 Aug. same year (1871). It is the *Unfall Versch. Genossenschaft* in Chemnitz. It is mutual in constitution, and extends its operations not simply to the legal liability arising under the law named, but also to accidents of which the law takes no cognizance. The risks are divided into twelve classes; and the prem. is proportionate to the ann. earnings of the workmen—varying from $\frac{1}{2}$ p.c. of a year's wages in Class iv. (Hosiery, Hardware, etc.) to $2\frac{1}{2}$ p.c. in Class viii. (Mines). The prem. for ins. against *Haftpflicht* liability is only 40 p.c. of the total prem. The following T. shows the progress of the Co.:

	1872.	1873.	1874.	1875.
Establishments insured	535	813	906	1,082
Number of persons insured	30,620	41,992	40,154	41,048
Claims admitted (No.)	717	1,754	2,017	2,195
Amount of prem.	M. 131,629	249,564	263,915	272,571
Claims paid and reserved	„ 81,063	170,130	152,718	178,803
Expenses of management	„ 26,151	33,816	30,754	37,294

The progress of this Co. is seen to be very steady.

On the 20 Dec. 1871, the *Magdeburger Allgemeine Versch. Actien Ges.*, founded 1844, and already carrying on the bus. of Fire, Life, and Inland Transport Ins., added on a branch for Accident Ins. Under this branch it insures workmen against accidents of all kinds, and owners against the *Haftpflicht* risk; but it also takes individual risks against accidents of all kinds, or against travelling accidents only. The risks against *Haftpflicht* are divided into 9 classes. The prem. ranges from M. $1\frac{1}{2}$ up to M. 9 for each individual employed. In case of accidents the Co. pays to the owner any sum or annuity which the owner is bound to pay according to the law. The prem. for an ins. against accident of any kind are arranged into 14 classes; and range from 0.9 p. mille up to 15 p. mille insured. The full sum is paid in case the accident causes the death of the person insured; or an annu. is granted in the case of lasting incapacity to work. An extra prem. is required to insure compensation in case of temporary incapacity to work. This extra ann. prem. ranges from M. $\frac{1}{2}$ in Class i. up to M. 8 in Class xii. for every mark of daily support. This allowance is made from the 5th up to the 150th day.

The progress of this branch of the bus. has been rapid, as is seen in the following T.:

	1872.	1873.	1874.	1875.	1876.	1877.
No. of persons insured	60,403	171,078	203,677	226,948	?	?
No. of claims	82	993	2,075	2,900	3,651	3,940
Amount of prem.	M. 217,788	654,586	880,791	1,047,968	1,142,474	1,228,317
Claims paid & reserved	„ 11,229	270,592	511,343	618,514	819,516	782,880
Profit realized	„ 41,540	79,325	73,228	70,427	5,271	52,408

The fluctuations of the last 2 years suggest careful observation and inquiry.

The United Private Railways Co. estab. this year by the Railway Cos. will be spoken of under sub-heading *Railway Ins.*

1872.—There was founded in *Berlin* under date 12 Jan. this year, the *Gegenseitige Lebens. Invaliditäts, und Unfall Vers. Ges. "Prometheus."* This is a Mut. Asso. with a guarantee cap. of M. 600,000 in 1000 shares; of which M. 172,500 has been paid up. The Co., as is seen, carries on Life as well as Accident bus. We shall speak only of its operations in the Accident department here, which have been as follows:

	1873.	1874.	1875.
No. of persons insured	99,551	129,855	134,264
Amount of prems.	M. 276,769	339,806	398,953
Claims paid and reserved	„ 108,493	180,266	233,156
Expenses of management	„ 239,075	165,243	182,040

It is seen by these figures that the operations of the Co. had not been attended with profit up to the date embraced in the returns.

There was founded in *Dresden* under date 27 March this year, the *Erste Deutsche Unfall und Transport Vers. Actien Ges.* This was a Proprietary Co., with a cap. of M. 607,500, in 405 shares—20 p.c. paid up. The bus. of the Co. combined Accident and Transport Ins.; but its operations were not attended with success, and on 31 Mar. 1876 resolutions were taken to wind up. The Accident portion of the bus. was trans. to the *Dresden Stuttgarter Unfall Vers. Bank*—a Mut. Asso. in Dresden.

On 24 Dec. this year (1872) there was founded in *Cologne* the *Rhenania*—a Proprietary Co. with a cap. of M. 3,000,000, of which 20 p.c. is paid up. Its bus. consists of Accident and Transport. In the Accident branch its returns at the end of 1875 show the number of persons insured to have been 23,596; and the amount of prems. M. 124,000.

1873.—There was founded in *Leipsic* on the 3rd May, this year, the *Deutsche Unfall, und Invaliditäts Ver. Ges.* This is an offshoot of the Asso. estab. in Leipsic, 1 July, 1871. It is a Mut. Asso., and insures against accidents of all kinds, except such as fall under the *Haftpflicht Gesetz.* The management of both Sos. is in the same hands. The result of the trading has been as follows:

	1873.	1874.	1875.	1876.	1877.
No. of estab. insured	582	1,279	1,755	2,219	2,394
No. of persons insured	52,053	79,865	95,496	102,492	99,923
Sum insured	M115,067,976	154,172,280	194,427,012	207,833,357	206,296,386
Amount of prem.	„ 92,317	231,464	336,027	444,292	446,453
Claims admitted	„ 370	1,393	1,747	2,711	3,465
Claims paid & reserved	„ 51,360	177,699	245,947	280,391	349,302
Expenses of man.	„ 22,207	55,716	89,985	110,831	118,379

This Co. is the first Co. for General Accidents alone which has been founded in Germany. Its progress seems fairly satisfactory.

In the autumn of this year there was founded in *Breslau* the *Schlesische Lebensversich. Actien Ges.* A proprietary Co. with a cap. of M. 3,000,000, of which 20 p.c. is paid up. The bus. embraces Life and Accident in all branches. The risks of the latter are divided into 6 classes. The prems. range from M. 1 to 8 p. mille of the sum insured against all risks; and from M. $\frac{2}{3}$ to M. $\frac{1}{3}$ p. head for *Haftpflicht* only. The progress of the Accident portion of the bus. has been as follows:

	1873.	1874.	1875.
Number of persons insured	15,984	25,029	31,591
Premiums	M. 68,978	117,076	151,387
Amount insured	„ 121,672,029	186,877,004	234,107,910
Claims admitted	„ 63	307	489
Claims paid and reserved	„ 12,499	50,415	64,558
Profit realized	„ 12,379	55,334	69,517

1874.—There was founded in *Hamburg* in April of this year the *Lebens und Unfall Versich. Bank auf Gegenseitigkeit.* This was a Mut. Life and Accident Ins. Asso. It failed in 1876, with a deficit of M. 155,000.

The other Accident Ins. Asso. in Germany are mut., very limited in their operations, and have been estab. at the following dates at the places named:

1870.—In *Leipzig* the *Allgemeine Baugewerken Unfall Vers. Genossensch.*

1871.—In *Grossenhayn*, the *Unfall Versich. Ges.*

„ In *Gwikkau* the *Unfall Versich. Genossensch Sächsischer Steinlenwerke.*

„ In *Werdaun* the *Unfall Versich. Genossenschaft.*

1872.—In *Chemnitz* the *Allgemeine Baugewerken Unfall Vers. Genossensch.*

„ In *Cremmitschau* the *Unfall Versich. Genossenschaft.*

1873.—In *Berlin* the *Allgemeine Baugewerken Unfall Vers. Genossensch.*

1875.—In *Hanover* the *Baugewerken Unfallgenossenschaft.*

1875.—In Karlsruhe the *Süddeutsche Lebens, Unfall und Rentenversich. Anst.*
 „ In Stuttgart the *Allgemeiner deutsche Versich. Verein*.

1876.—In Dresden the *Mitteleutsche Lebens und Unfallvers. Anst.*

Annuities on Lives.—Apart from the early ins. and annu. projects which are said to have sprung up in Germany during the 16th century, and which we regard as in a great measure mythical, we find but small trace of any annu. schemes down to the second quarter of the present (19th) century. The so-called life annu. schemes of the second half of the last century were simply widows funds; as was the *General Widows Annu. Pension So.*, founded in Brunswick in 1824, but which latter had an annu. branch formed in 1842 (see this date). None of these earlier asso. granted immediate or deferred annu. in respect of a given money consideration, to continue during the remainder of life.

1825-35.—During this period there was more or less excitement in parts of Southern and Eastern Germany with respect to the formation of annu. asso.; but we find no very distinct records of what was actually accomplished in this direction.

1836.—There was estab. at Karlsruhe the *Allgemeine Versorg. Anstalt*, for granting survivorship annu. It transacted a considerable bus.

1839.—During this year there was founded in Berlin the *Preussische Renten Versich. Anstalt*—Prussian Annuity Assu. Co.—which has transacted considerable bus. in annu., and is now by far the more prominent Co. for this class of bus. In 1855 it had 194,106 members.

1841.—There was founded in Dresden the *Sächsische Renten Vers. Anstalt*—the Saxon Annuity Inst.—which granted survivorship annu.; and had in 1855 about 13,000 members.

1842.—The *General Widows Annu. Pension So.*, which had been founded in Brunswick in 1824, was during the present year reconstructed, and became the *Brunswick General Assu. Co.*, and as such had a branch for granting annu. immediate and deferred. The operations of the Co. were based upon *Herr Brune's T.*—See *Life Ins.*, this date.

1844.—The following several annu. asso. were estab. this year:

1. At Stuttgart: the *Allgemeine Renten Anstalt*—General Annuity Inst.—which granted survivorship annu.; and by 1853 had acquired a considerable bus.

2. At Hanover: the *Hannöver Renten Vers. Anstalt*—the Hanover Annu. Inst.—which made steady progress.

3. At Breslau: the *Allgemeine Preussische Alters Vers. Anstalt*—the General Prussian Old-age Ins. Inst.—which appears to have transacted a small bus. only.

4. At Darmstadt: the *Renten und Lebens Vers. Anstalt*—Annuity and Life Ins. Inst.—which in 1855 had 6352 members, and appeared to be in a flourishing condition.

1847.—There was founded at Munich: the *Renten Anstalt der Baierische Hypoth. und Wechsel Bank*—Annuity Inst. and Bavarian Hypothetic and Exchange Bank—for granting survivorship annu. The Co. appears to have transacted a considerable bus.

1850.—Herr Masius estimated the amount insured on “Life Annuities” at this date in Germany as being £1,400,000; but furnished no means of apportioning this amount between Annu. Inst. proper and Widows Funds.

1851.—At the close of this year Herr Masius again made a statement regarding the Life Annu. bus. of Germany. His return was in the following shape:

Name of Co.	No. of Members.			Total of Annu. Capital.
	Full Term.	Shorter Periods.	Together.	
Berlin	31,692	150,107	181,799	859,145
Dresden	3,339	4,809	8,148	62,113
Hanover	2,112	4,455	6,567	49,002

There was an intimation that the “other Cos. in Darmstadt, Karlsruhe, Vienna, and Munich have not yet sent in their accounts.”

Herr Masius, in his *Report upon the Various Branches of Assu. in Germany*, addressed to the Convention of Ins. Representatives held in London this year, offered the following obs. and statistics on this division of our present inquiry:

The Assu. of Annu. and Reversions, so far as concerns those who partake of the benefits, goes hand in hand with Life Assu. in the results; but the causes which produce them are widely different. In Life Assu. we promise *too little*—in Annuity Assu. *too much*! In Southern and Eastern Germany it dates from 1825 to 1835; but a great impulse was given to it on the estab. of the Prussian Annu. Assu. Co. in 1838-9; and it increased, at least in Northern Germany, in a remarkable ratio. This ratio was *entirely owing to the misrepresentations and deceptions which the organs of the Co. at that time permitted*, and which were shared in by the press, and thus transmitted to the people. Thus some believed, for instance, that out of one inadequate payment of 10 thalers they would after 20 years be able to acquire an annu. of 100 th.; or from 10 thalers payment for a proportionately few years, obtain possession of 150 th. annually. Since that time the public have much sobered down, and have proceeded on just principles in estimating the proportionate ratio of annu. In the mean-while a better knowledge of annu. assu., and a calmer consideration of the subject, have been obtained; and the Cos. have been, and are, daily used as great savings banks by careful fathers of families, who wish to provide something for their advantage in more advanced age. The 9 Mutual Annu. Assu. Cos. of Germany have assured what is equal to a cap. sum of 15,000,000 th. (£2,143,000); and up to the present time have each been in a position to form for every year classes of the particular

year (*Fahresgesellschaften*), since in several of the Cos. all the classes of the assured are not invariably blended together.

1853.—The *Concordia* Life, etc., founded at Cologne this year, made the granting of annuities on lives a special feature. The following were the rates for each 10 thalers yearly:

Age 5 years.	Th. 216 ¹	Age 50 years.	Th. 133 ⁸⁰
" 10 "	" 218 ³⁷	" 60 "	" 106 ³⁷
" 20 "	" 204 ⁶⁷	" 70 "	" 76 ⁴⁷
" 30 "	" 190 ²⁰	" 75 "	" 66 ⁶⁰
" 40 "	" 169 ⁵³		

Deferred annu., and also annu. on 2 lives payable until death of last, granted; also annu. for 2 lives, one-half payable after death of first. [*Ins. Frauds.*]

Association of Fire Ins. Cos.—See sub-heading *Fire Ins.* 1852.

Burial Sos.—Widows Funds and Burial Sos. have existed in Germany for more than 200 years, in very great numbers. There was no town of any importance which did not possess one or more estab. of this kind. The Gilds of Artisans usually maintained such inst. for their members: seeking in them at the same time a stronger combination, and uniting their corporate interests. The love of these inst., and the endeavour to provide, by means of them, for those left behind, spread from the Gilds of Artisans to the other classes of the people, in consequence of which many hundreds, even thousands of these little Burial Sos. and Funeral Funds are to be found in Germany—from which, at the death of a member, a certain sum of money is paid to the survivors, to defray the expenses of interment, and to provide for the family immediately after the death of the subscriber. An extensive use was also made at all times of these estab. by such classes of people as were not so wealthy—because even the poorest are ambitious to take measures that they may have a decent burial furnished at a fixed expense. This motive induces many, and particularly women, to subs. to a Funeral Fund in Germany.—Herr G. Hopf, in *Assu. Mag.* 1860. See sub-headings *Friendly Sos.*; and *Widows Funds.*

Cattle Ins.—This branch of Ins. bus., although it has been carried on for a century and a half, has not been in any degree a marked success. The reasons for this were fairly stated by Herr Masius in his paper read before the London Ins. Convention in 1851, which we have quoted under that date in our general art. CATTLE INS.

1720.—The first instance of the Ins. of Cattle we have met with is that which we have quoted under this date in our general art. CATTLE INS. It seems probable that this branch of Ins. originated in Germany.

1830.—The *Leipzig* Cattle Ins. Co. was founded this year.

1850.—Herr Masius estimated the amount of ins. of this class in force in Germany at this date as being £200,000 only.

1851.—The *Potsdam* Cattle was founded this year, its operations being based upon the advice of Herr Masius.

In 1852 the Co. had 1554 members in the Prussian States. It had insured 1697 head of cattle, 1292 horses, and 668 swine and goats—for a total sum of £21,663. The progress of the Co. was very rapid.

1877.—A scheme of mut. ins. was instituted amongst the pork butchers against loss from had or "trichine" infected meat.

1878.—The *Union Live Stock* Ins. Co. of Berlin has organized a special branch of its operations to meet the risk of railroad transportation of cattle, etc. The prem. is small; and the Co. pays for all losses and accidents which happen during the transit of the animals over the railroad. To carry out this system in a complete form the Co. propose to estab. an agency at each principal railway station.

Commercial Credit Ins.—It is stated that at the present time (1878) a Co. of this class is in course of organization in *Berlin*. *L'Argus* puts it that the Co. is for the transaction of assurances against loss through bankruptcies.

Deposit or Savings Bank Ins.—This branch of bus. was, we believe, first introduced into Germany by the *Concordia* Life, founded at Cologne in 1853. The scheme of this Co. was to receive deposits, allow a certain accumulative rate of int. on them, viz. 3½ p.c. if with one year's notice, 3 p.c. at 6 months' notice, and 2 p.c. with 3 months' notice—the deposits if remaining purchasing a certain amount of ins. Other T. showed the capital amount which would be provided for a single payment from 5 to 50 years: ditto for ann. payments.

Diseased and Impaired Lives.—The first Co. which made a special feature of ins. these in Germany was the *Magdeburger Life*, founded 1855. Some of the offices had previously accepted occasionally under-average lives; but as a rule the German offices made a feature of accepting only lives which are in good health.

Fidelity Guarantee Ins.—This is a branch of bus. which appears never to have taken root in German soil. Various minor attempts have been made to introduce it, but all without avail.

Some years since the *Leipzig Life* Ins. Co. issued a prosp. undertaking to grant combined Life and Fidelity pol., but it was understood that the project was abandoned from lack of support. It is prob. there is less need for Fidelity Ins. in Germany than in many countries of Europe.

Fire Ins.—It seems beyond question that the practice of Fire Ins. originated in Germany, and that it originated as a State or Municipal Inst.—*Staats-Brand Versicherungsanstalten*—State as applied to the country at large; Municipal when applied to particular towns. Also that such ins. was compulsory on the owners of houses or buildings, but rarely, perhaps never, so as to their contents. We have hoped, in the extended range of Ins. literature which prevails in Germany, to find some authentic details on these points; but we are disappointed.

1609.—In our general hist. of FIRE INS. we have recounted the proposal made by an “ingenious person” this year to Count Anthony Gunther von Oldenburgh, that all the proprietors of land should insure the houses of their subjects against fire; and the Count’s refusal of the proposal on the ground that it would be something like flying in the face of Providence. This was prob. the first germ of the idea of Fire Ins. [FIRE INS. HIST. OF.] The circumstances are narrated in Winkelmann’s *Oldenburgischen Friedens- und der benachbarten Oerter Kriegshandlung*; from which Beckmann—*History of Inventions*—derived his account.

Now although Count Anthony did not adopt the scheme in Oldenburgh, there seems reason to believe that the proposal did not die out. The facts which follow indicate this almost to a certainty. The existence of the *Werder* Fire Fund a few years later is of great importance in this connexion. And many State or Municipal Fire Funds are found existing in the North of Germany a century later. Some of these may have been revivals or reconstructions of former Inst. They are almost peculiar to Germany and the North of Europe [DENMARK]. In Russia it is the custom for the landowner to indemnify the villager on his estate against loss or damage by fire.

We propose to record the existence of the State or Municipal Fire Funds wherever existing in the several States of the Empire.

1623.—An Inst. known as “The *Gr. Werder Fire Fund*” is stated to have been estab. in Prussia, on the Vistula, for the Ins. of Houses, Crops, Cattle, etc., this year. We presume it was a State undertaking, but we are unable to obtain any authentic details regarding it.

1667.—The *Fire Casse*, or Municipal Ins. Fund of *Hamburg*, is said to have been founded this year—probably induced by the Great Fire of London of the previous year. It was existing in 1842, and suffered very severely by the great fire of that year. [HAMBURG.]

1729.—A State Fire Ins. Bureau was instituted in Saxony this year. The ins. of all buildings in it was rendered compulsory on the owners. The rate of prem. was to be fixed by the insured. The assessment of damage in case of fire was to be made by Gov. officials. In 1874 the constitution of the undertaking was altered, and placed upon the basis on which it now exists.

Similar inst. were formed in the following years, at the places named; and we suspect there were others of which we have no record:

1742.—For the State of *Prussia*.

1750.—For the State of *Hanover*.

1751.—For *Nassau-Weilburg*.

1753.—For *Brunswick-Wolfenbittel*; same year one in *Wirttemberg*.

1754.—For *Anspach*.

1758.—For *Baden-Durlach*.

1764.—For the County of *Mark*.

1768.—For *Saxe-Weimar*; and same year for *Eisenbach*.

Beckmann seems to imply that an account of other inst. of this class will be found in Krunitz, *Oekonomische Encyclopedie*, vol. xiii. p. 221.

1769.—There was estab. this year the *So. of the Clergy in the Mark of Brandenburg*, to ins. goods and household furniture. This was prob. a mut. ins. asso.; and if so, was the first of its class in Germany.

1779.—The *Fünfte Assecuranz Compagnie* (Fire and Marine) was estab. in *Hamburg* this year. This was the first Proprietary Ins. Co. founded in Germany. It existed until 1842, when it was ruined by the great fire.

1800.—A Mut. Fire Ins. Co. was founded in *Hamburg*, and continued in existence until 1843,—having been ruined by the great fire of the preceding year.

1801.—A Mut Ins. Asso. was founded in *Mecklinburg* this year, which is still in existence, and has a very considerable bus.

Same year the *Mobiliar Brand Assecuranz* Co. was founded in *Neubrandenburg* for the ins. of movable effects.

1808.—There was founded in *Bremen* the *Fire Ins. Co. of Lukamp* (proprietary), which existed down to 1845, when its operations ceased.

1812.—The *Berlin Fire Ins. Co.*—*Die Berlinische Feuer Versicherungs Anstalt in Berlin*—was founded this year, on the model of the London *Phenix*. It appears to have had a cap. of £121,430, in 850 shares of 1000 rixthalers, or £43 each, of which 20 p.c. was paid up. The bus. did not grow very rapidly: by 1844 it had insured sums in the aggregate just over 2½ millions stg.; and the ann. prem. income was about £6000. The profits realized were considerable.

1819.—The *Leipsiger Feuerversicherungs Anstalt*—Leipsic Fire Assu. Co.—was founded, as a proprietary Co. Its progress was steady; by the end of 1849 it had insured on its books about £17,143,000.

1820.—The *Patriotische Proprietary Fire Ins. Co.* was founded at *Hamburg*.

1821.—There was founded at *Gotha* (mainly by the influence of Herr Arnoldi, a leading merchant there) the first of the modern Mutual Fire Ins. Offices of Germany—the *Fire Ins. Bank of Germany* (*Feuerversicherungsbank für Deutschland*), generally known as the *Gotha Fire*. Its progress was rapid. By the end of 1849, or in the period of 28 years, it had about 50 millions stg. in sums insured upon its books, with a prem. income of £160,326.

The Co. came out of the great fire in *Hamburg* in 1842 comparatively uninjured.

1822.—The *Vaterländische Feuer Versicherungs Gesellschaft in Elberfeld*—shortly designated the *Elberfeld Fire Ins. Co.*—was founded as a proprietary inst. Its normal cap. is 1,000,000 th., in 1000 shares of 1000 th. each. Its progress was steady. By 1849 it had ins. on its books to the extent of about 19 millions sterling; while the ann. prem. income was about £32,300.

Same year there was founded at *Trieste* the *Azienda Assicuratrice Proprietary Ins. Co.*

1823.—The *Aachen Münchener Feuer Versicherungs Gesellschaft*—usually known as the *Aachen-Munich Fire Assu. Co.*—was founded at *Munich* as a proprietary office, with a cap. of 3,000,000 th., in 3000 shares of 1000 th. each. Its progress was very rapid. In 1833 the Co. was in part reconstituted. Within the first quarter of a century of its hist. it had insured about 69 millions stg., and had a prem. income of £128,802.

1824.—There was founded in *Vienna* the *Erste Oesterreichische V. G.*—First Austrian Fire Ins. Co.—a proprietary office, which has attained a position of considerable success.

1826.—There was founded at *Schwedt* the *Mobilier Brand. V. G.*—Mobilier Fire Ins. Asso.—as a mutual ins. inst. Its bus. has been considerable.

1827.—There was founded at *Rostock* the *Vaterland Feuer Versicherungs Societät*—Fatherland Ins. So.—Mutual, which has transacted but a very small bus., but has conducted it with great success.—See 1850.

1828.—There was founded at *Norden* the *Ostfriesische Mobiliar Versicherungs Anstalt*—East Friesland Mobiliar Ins. Co.—as a mut. asso. for the ins. of movable effects. The Asso. has transacted a small bus.

1830.—There was founded at *Altona* the *Feuer Assecuranz Verein*—a Mut. Fire Ins. Asso., which has continued to carry on a very successful bus.—See 1850.

1831.—There was founded at *Gustrow* the *Feuer V. Verein für Mecklinburg*—Fire Ins. Asso. for Mecklinburg—a mut. asso. which has transacted a considerable bus.

Same year there was founded at *Trieste* the proprietary office *Assicurazioni Generali*—General Assu. Co.

1836.—There were founded the following fire ins. asso.:

1. At *Munich* the *Mobilier Feuerversicherungs Anstalt der Hypotheken und Wechsel Bank*—Mobilier Fire Ins. Co. of the Loan and Exchange Bank—a proprietary co. with a cap. of 3,000,000 th.

2. At *Trieste* the *Riunione Adriatica di Sicurtà*—Adriatic Assu. Co.—a proprietary co. This Co. has transacted a very large bus.

1839.—The *Colonia Fire Assu. Co.* was founded in *Cologne* as a proprietary office, with a cap. of 3,000,000 th., in 3000 shares of 1000 th. Its progress was very rapid. In the first 10 years it had insured close upon 47 millions stg., and had a prem. income of over £89,000.

Same year at *Leipzig* the *Brand. V. Bank für Deutschland*—Fire Ins. Bank for Germany—a mut. asso. that has made very considerable progress.

1840.—There was founded at *Marlenwerder* the *Mobilier Feuer V. Ans. für das Platte Land*—Mobilier Fire Ins. Co. for the Low Country—a mut. ins. office which has transacted a considerable bus.

Same year, at *Stolp*, the *Mobilier Brand. Ver. Ges.*—Mobilier Fire Ins. So.—a mut. asso. which has transacted a very fair amount of bus.

1842.—There was founded at *Griefswald* the *Mobilier Brand. Ver. Ges.*—Mobilier Fire Ins. So.—a mut. asso. for movable effects, which has transacted a considerable bus.

The great fire in *Hamburg* which commenced on 4 May this year, and involved an estimated loss of £7,000,000. Several of the German Fire Offices suffered severely. Four of the British Offices, viz. the *Phoenix*, *Sun*, *Royal Exchange*, and *Alliance*, paid in the aggregate near upon £500,000—the loss on the first-named Co. being very heavy. [FIRES, GREAT.]

1843.—The following fire offices were founded.

1. At *Frankfort* the *Deutscher Phoenix Carlsruhe und Frankfort-à-Maine*—generally known as the “German Phoenix”—a proprietary co. with a cap. of 5,550,000 th. Its bus. was mainly confined to the ins. of furniture in dwelling-houses. For many years its dividends ranged from 30 to 40 p.c.

2. At *Königsburg* the *Borussia Feuer Ver. Ans.*—Borussia Fire—a proprietary co. with a cap. of 2,000,000 th., in 2000 shares of 1000 th. each. This Co. ceased bus. in 1855.

3. In *Hamburg* the *Feuer Assecuranz Co. von 1843*—Fire Ins. Co. of 1843—a proprietary co. with a share cap. of 500,000 th. paid up.

4. Also in *Hamburg* the *Neue Fünfte Assecuranz Co.*—New Fifth Ins. Co., a proprietary co. with a cap. of 750,000 th.

1844.—There was founded at *Magdeburg* the *Magdeburger Feuerversicherungs Ges.*—the *Magdeburg Fire (and Transport Ins.) Co.*—a proprietary office with a cap. of 1,000,000 th., in 1000 shares of 1000 th. Its progress was rapid, more particularly in the transport department of its bus.—the figures upon the books being: fire ins. (sums insured) 9 millions; transport ins. over 42 millions stg. The prem. income of the two branches combined was £32,609.

1845.—There was founded at *Stettin* the *Preussische National Versich. Ges.*—Prussian National Ins. So.—a proprietary office, with a cap. of 3,000,000 th. The Co. has transacted a considerable bus.

1847.—There was founded in *Lubeck* the *Neue Versich. Ges. Gegen Feuersgefahr*—New Ins. So. against Fire Risks—a proprietary co. with a small cap. It ceased to carry on bus. in 1856.

1848.—There was founded in *Breslau* the *Schlesische Feuer V. Anstalt in Breslau*—usually known as *Silesia Fire Assu. Co.*—as a proprietary office, with a cap. of 2,000,000 th. in 2000 shares of 1000 th. Its progress was rapid. By the end of 1849 it had ins. upon its books for close upon 4 millions stg., with a prem. income of £17,329.

1849.—At the close of this year the 7 leading Fire Offices of *Germany*—the *Gotha* (mutual), the *Leipsic*, *Elberfeld*, *Aachen-Munchen*, *Colonia*, *Magdeburg* (part transport), and the *Silesia* (all proprietary), had Fire risks running to an aggregate of over 213 millions stg.; with a total of ann. prems. of £460,753—of which perhaps £25,000 belonged to the transport bus. of the *Magdeburg*.

1850.—Herr Masius estimated the amount of *Fire Ins.* in force in *Germany* at this date to be as follows:

By the Proprietary Cos.	about	£286,000,000
„ Mutual Offices	„	100,000,000
„ Municipal Asso.—insuring only movable property ..	„	429,000,000

Total £815,000,000

The necessity of increasing the cap. of some of the proprietary offices, in consequence of the large risks they were entering upon, was pointed out at this date—see *Reinsurance*.

The average rate of ann. dividend yielded by the 3 provincial mut. offices from the date of their respective estab. was as follows: *Gotha* (1821) 42 $\frac{3}{4}$; *Rostocker* (1828) 32; *Allona'er* (1831) 16 p.c.

1851.—Herr Masius, in his Rep. to the Ins. Convention held in London this year, made the following obs.:

Fire Ins., in so far as the private Cos. (*Die Privatversicherungs Gesellschaft*)—as distinguished from the State Bureaus—are concerned, is fully estab. in *Germany*; and in its management with respect to the insured, is carried on in a spirit of justice and liberality, and knowledge of affairs, found in few other countries. From the very active competition which exists amongst the native Cos.—not to speak of foreign Cos. to which the liberty of operation has been conceded—it is almost generally taken advantage of by the pop., with the exception only of the inhabitants of the chief towns in *Austria*—viz. *Vienna*, *Prague* and *Pesth*; as also people of the fourth rank, being petty tradespeople, day-labourers, handicraftsmen, small cultivators of land, and cottagers: the first because they are believed to dwell in fire-secure buildings; and the last, because on account of their small property the costs of ins. would come higher to their share than the just prems., and they are impressed with the idea that they could not afford the outlay: neither does it appear that the Cos. seek to draw the latter to them, however great in other respects may be their hunting after assu.

The condition of the German private Assu. Cos. may in general be looked on as nominal, though the pernicious custom “not to make the prem. reserve dependent on a full and careful account, but on the close of the year to reserve an arbitrary sum,” is not yet laid aside by two of the Cos.

We possess at present 20 Fire Ins. Cos. at fixed prems. (Proprietary Cos.) which together assure to the amount of nearly 2,000 million thalers (about £286,000,000). The average prem. may be reckoned to be not quite 2 per 1000. The profit to the shareholders varies considerably, and exclusive of interest amounted in the last year from 8 to 40 th p. nominal share of 1000 th—of which ordinarily about 20 p. c. may be paid up. Of the old Cos., only the *Leipsic Fire Ins. Co.*, and the *Fatherland* in *Elberfeld*, perhaps also the *Berlin*, go on their quiet regular course, and do not suffer themselves to be put out of the way through apprehensions of their elder sisters in *Aix-la-Chapelle* and *Cologne*; or through the powerful exertions of their younger sisters in *Magdeburg*, *Breslau*, *Frankfort*, and *Stettin*. If, however, this driving and hunting after assurances be justifiable—which can only be accomplished at the cost of the shareholders, and by the prem. for ins. being continually depreciated—to expect the same solid business hitherto obtained in *Germany* is a thing which must make me, and every impartial competent judge, shake our heads with doubt.

Of Mutual private Ins. Cos. we possess 13. Three of these, including the *Gotha Bank* with sums insured of about 400,000,000 th. (£57,142,000), extend their operations into all *Germany*, and insure movable and immovable property; and two in *Vienna* and *Stuttgart* only buildings. The property insured by all these Cos. is valued at 700,000,000 th. (£100,000,000).

With regard to ins. of immovable property, there exist in several countries, Gov. Fire Ins. Cos., with compulsory payments, as for instance in *Saxony*, *Baden*, etc., in which the average tax required is between 2 and 3 p. 1000. In *Austria* there exists in the greater part of the Crown lands compulsory but very imperfect Ins. Unions, which nevertheless hold out but very small chance of security. In *Prussia* the system of compulsory ins. is almost at an end; and so many Fire Sos. have estab. themselves under the orders of the State, that in many Gov. districts two or three of them exist, and the towns are separated from the country. Through this separation 40 or 50 such Unions exist in the country, but a few only of which are qualified to guarantee security: whilst in general the contributions are high, and in some cases almost unattainable. This condition in *Prussia* is unhealthy, and must sooner or later be altered.

The short report upon the Fire Ins. bus. in Germany this year was, that although as regards profits—through the lowering of rates, and the constant competition of the Cos. against each other—the previously solid character of the Cos. was threatened to be destroyed; yet that the additional protection given to the mercantile classes, as well as private persons, was of very great advantage. On the whole, the profits of this year had not been bad.

1852.—At a conference of the managers of the leading Fire Ins. Asso. of Germany, held at Leipsic 13 Dec. this year, it was formally proposed to estab. an Asso. of Ins. Cos., for the purposes following: 1. Of common deliberation and mut. co-operation, as well in reference to theory as practice. 2. Every duly authorized Fire Ins. Co. in Germany, whether proprietary, mutual, mixed, State, province, town, or private Co., might be a member. 3. Might join or leave the Asso. at any time. 4. Hold ann. meetings, locality being fixed at previous ann. meeting. 5. Cos. to send one or more delegate with voting powers. 6. Asso. to have a President, V. P., and Sec. 7. Committee to manage details. 8. "Votes on questions under discussion have only for object to settle differences of opinion, and to carry out the resolutions which, according to the decision of the majority, concern the common interests of Fire Ins. Cos. and of the Asso. Resolutions which tend to restrict or to affect the principles or management of the bus. of the different Cos. cannot be entertained by the meeting." 9. Expenses of Asso. to be borne by the members in common.

At the Conference much interesting information was given, of which the following is but a brief abstract. The *Marine* Ins. Asso. had not evinced any desire to belong to this Asso.—they had already formed a union among themselves, and exchanged views at their periodical meetings. The *Life*, Annuity, Endowment and Widows Funds Asso. had not responded favourably. The *Inland Transport* Cos. had entered into a close union among themselves. The *Hail* and *Cattle* Cos. had shown a willingness to join; but the members present were "unanimously of opinion, after relation of these facts, that in this state of affairs the idea of uniting all the different branches of assu. in a gen. asso. for their common interests," being found impracticable, must be given up. It was therefore to be limited to the *Fire* Offices, of all descriptions. The question now was the aim and object:

... It was agreed that it was peculiarly important to gain, by means of the Asso., a moral strength, and for this purpose two objects should be kept in view. In the first place, and principally, it should be the task of the Asso., from its high position, and supported by the practical experience of its members, to obtain from the State authorities of all German States, *an improvement in the legislation*, to correct defects, to work out a removal of oppressive and unjust enactments, and lastly, to endeavour as far as possible to *estab. a gen. system of Legislation for Assu. in Germany*. In the next place, that moral force should be employed to create, both amongst the various private Assu. Cos. and those connected with the Public Inst., a better understanding than has hitherto prevailed, and co-operation for the common purpose in view; and, above all, *that the misunderstandings which have several times recently interrupted the harmony between private Assu. Cos., and which have been a scandal to the public, might in future be altogether banished.*

Further:

No doubt can be entertained that it is most important and desirable that *the Asso. should estab. a scientific organ—a periodical*, in which the members may record the results of their experience, and thereby enable interesting questions, which relate to this Assu. bus., to be treated of with intelligence for the common good. This periodical should be sent out free, and a price covering the costs should be charged to the members, according to the number of copies which they may require.

Such is an outline of the proposed Ins. Asso.—which, beginning on the idea of embracing all classes of Ins. Cos., had at its first stage to realize the fact that it could merely adapt itself to one—to the wants of the *Fire* Cos.

1853.—At this date there were stated to be in operation in Germany in all 16 Proprietary Fire Offices, the current risks on the books of 12 of the principal of these amounting to over 300 millions stg.; while the prem. income of the entire 16 (reinsurance deducted) was £1,169,152.

1854.—There was founded the *Hamburg Bremer. Feuer Ver. Ges.*—Hamburg-Bremen Fire Ins. So.—a proprietary co. with a cap. of 500,000 th.

1855.—Herr Wilhelm Lazarus, of Hamburg, contributed (vide *Assu. Mag.* vol. vii. p. 348) many facts regarding the German fire offices, from which we have drawn some of the preceding details. He made the following estimate of Fire Ins. in force in Germany this year:

19 Proprietary Cos., risks	£530,000,000
12 Mutual Asso.	101,300,000
Add to this—Small Mutual Sos.	43,000,000
English, French, Dutch, Belgian Sos., etc.	28,600,000
Government Sos. for Buildings	357,100,000
	£1,160,000,000

In arriving at these figures, 7 thalers have been estimated to the £. To be strictly correct, 5 p.c. should be added to the items.

1856.—There was founded in *Lubeck* a Proprietary Fire Ins. Co.

1857.—There was founded in *Frankfort-on-the-Main* the *Providentia*—a Proprietary Co. for Fire, Life, etc. The founder was Herr Albert Varrentrapp, who had gained

considerable experience in Life bus. as the agent of the *Medical Invalid* (British Co.) in South Germany.

Herr Oberlander, Privy Councillor of the King of Saxony, in a work pub. this year—*On Fire Ins. Cos. before the States General of the Kingdom of Saxony*—goes into the question not only of the statistics of fire ins., but of the advantages of compulsory ins. by the State. His arguments were soon afterwards ably answered by Herr W. Lazarus.

1865.—It appeared that the Prussian Cos. had for 30 years or more prior to this date submitted the ann. statements of their bus. to the Ministry of the Interior, and to the Royal Bureau of Statistics. The latter department appears to have taken special note of some of the leading facts: as the amount of prems. received; the proportion of losses paid; the classification of risks, etc., etc. During the year 1871, or early in 1872, the collective results of these annually deposited statistics—extending back in some cases to 1830, in others only to 1840—were made public, classed into districts. The following T. gives but an abstract of the results:

	COMPANIES.	Ratio of losses to each 1000 Thalers ins., 1841 to 1865.	Per-centage of wooden roofed buildings to the whole No. ins.
1	City of Berlin	0'30	.....
2	„ Stralsund	0'57	.....
3	„ Breslau	0'59	.....
4	„ Stettin	0'61	.....
5	Principality of Halberstadt	0'96	.....
6	Provinces of the Rhine	1'34	* 25
7	City of Königsberg	1'42	.....
8	New Pomerania	1'58	.....
9	Duchy of Saxony (provincial)	1'76	30
10	Province of Westphalia	2'68	25
11	„ „ Brandenburg (city)	2'22	4'7
12	„ „ Saxony (city)	2'30	12
13	Duchy of Hohenstein	2'43	.....
14	Magdeburg	2'67	30
15	Upper Lusatia	2'72	47'7
16	Old Pomerania (provincial)	2'90	66
17	Neumark (provincial)	3'18	* 48
18	Province of Schleswig (city)	3'28	30'6
19	Old Pomerania (city)	3'45	12'4
20	Kurmark and Lower Lusatia (provincial)	3'60	* 43'2
21	West Prussia (provincial)	3'70	* 52
22	East Prussia (provincial)	3'90	* 60'4
23	East Prussia (city) district of Gumbinnen } „ „ „ „ „ Königsberg }	3'98	* 16 12'7
24	Province of Schleswig (provincial)	5'00	65
25	„ „ Posen	5'04	* 47'6
26	East Prussia (provincial) district of Gumbinnen } „ „ „ „ „ Königsberg }	6'17	* 93
27	West Prussia (general)	7'83	.....

Note.—Those per-centages marked with a star (*) contain the totals of trades particularly exposed to fire, insured in the different Cos. In some of the other items this matter had not been taken into especial consideration.

It is to be remembered that the City Cos. would have a much smaller per-centage of buildings with wooden roofs than the Cos. trading in the provinces; but on the other hand the agglomeration of buildings carries with it the chance of destruction by proximity of risk.

In the following T. a comparison is made of the results in the several provinces of Prussia:

PROVINCES.	Ratio of Fire Losses to each 1000 Thalers insured.	Per-centage of Buildings with wooden roofs to the total sums ins.
Rhine	1'34	25
Westphalia	2'01	25
Saxony	2'20	23
Pomerania	2'98	56
Brandenburg	3'12	30
Prussia	4'45	59
Schleswig	4'46	52
Posen	5'02	47'5

The two columns of numbers do not stand throughout in quite the correct proportion to each other ; the province of Saxony pays proportionately less losses on buildings with thatched and similar roofs than the Rhine provinces and Westphalia, and nevertheless shows a greater number of fire losses on them than do these. The same proportion subsists between Brandenburg and Pomerania, as well as between the 3 provinces immediately preceding them. The cause of this state of things in the first 3 sections was to be found in the frequent isolated situation of the buildings in the Rhine provinces and Westphalia, as against the predominant frame structures in the various villages of Saxony, and similar circumstances were to be considered in other provinces. In Posen, moreover, the influence of the year of revolution was to be thought of ; in the years 1846–1850, the Co.'s losses were at the rate of 7·10, 9·93, 7·18, 8·43, and 6·83 p. thousand thalers respectively, whereby the average for the whole period is very considerably increased.

The next classification bears reference to the class of buildings, and is of great interest :

CLASSES.	Amounts Insured. Thalers.	Losses. Thalers.	Ratio p. 1000 th.
1. Stone buildings with fireproof roofs	6,819,955,740	4,836,737	0·71
2. Wooden buildings with fireproof roofs	8,090,662,210	15,300,861	1·89
3. Buildings without fireproof roofs	7,256,951,937	37,996,525	5·24
4. Buildings in which trades are carried on requiring the use of fire.....	221,020,216	1,254,973	5·68

If the losses by fire in the first group of buildings be taken as 1·00, those in the second group are 2·66, in the third 7·38, and in the fourth 8.

The next T. is even of greater interest. In it the experience of the City Cos. is compared with that of those doing bus. in the open country in respect of the three principal groups of buildings mentioned above. The final results of the T. are as follows :

CLASSES.	Proportionate Per- centage of total sums insured.		Ratio of losses to amount insured for each 1000 Thalers.	
	City Cos.	Country Cos.	City Cos.	Country Cos.
1. Stone buildings with fire-proof roofs	33·2	19·0	0·81	0·63
2. Wooden buildings with fire-proof roofs	53·6	29·0	2·15	1·43
3. Buildings without fire-proof roofs	13·2	52·0	7·97	5·84

The average extent of losses appears to be much less in the country than in the cities : this confirms the view of extra rating for proximity of buildings.

The preceding furnish but a very meagre outline of a very important return ; but we believe we have presented the really practical points.

1867.—The burning of the Cathedral and adjacent property at *Frankfort-on-Maine* this year led to the final abandonment of the system of Municipal Ins. of Buildings in that City. Under FRANKFORT will be found full details.

1868.—Steps were taken by the Prussian Chamber of Deputies to obtain a revocation of the Law for obligatory ins. in the several State funds ; and to throw the bus. of Fire Ins. open to general competition.

1872.—From a Return made by the Royal Statistical Bureau of Prussia, it appears there were insurances in force in that country at the end of this year to the amount of 9,021,000,000 thalers (or £1,288,714,286). The proportion of prem. to risks was '2046 p.c. The losses averaged 70·03 p.c. of the prem. These results are obtained by lumping all the offices together. But it is important to divide them into their respective classes, of which there are three. The first are the State Funds for Buildings—designated "Public Mut. Cos." ; next come the Private Mutual Asso. ; and finally the Stock Cos.—designated *Die Privatversicherungs Gesellschaften*, or Private Stock Cos. The results are therefore classified under these respective heads :

I. PUBLIC MUTUAL COMPANIES.

Number of companies, ...	45
Amount insured, ...	Thalers. 3,095,782,920
Premiums, ...	6,215,716
Rate of premiums to risks, per cent., ...	'2008
Losses, ...	5,418,487
Rate of losses, to premiums, per cent., ...	87·104
Rate of losses to risks, per cent., ...	'175

2. PRIVATE MUTUAL COMPANIES.

Number of companies, ...	161
Amount insured, ...	Thalers. 993,050,057
Premiums, ...	1,713,019
Rate of premiums to risks, per cent., ...	'1725

Losses, ...	1,526,169
Rate of losses to premiums, per cent., ...	89.092
Rate of losses to risks, per cent., ...	1539

3. PRIVATE STOCK COMPANIES.

Number of companies, ...	32
Amount insured, ...	Thalers. 4,939,354,394
Premiums, ...	10,529,945
Rate of premiums to risks, per cent., ...	21319
Losses, ...	5,984,705
Rate of losses to premiums, per cent., ...	56.740
Rate of losses to risks, per cent., ...	1211

The following figures furnish the results for three years 1870-1-2, and we give them to prevent reliance upon any single year, which is always liable to fluctuation. In these 3 years the Public Cos. received for premis. 18,210,715 th., and paid losses to the amount of 15,149,168 th. Their resources were 7,286,980 th. The Mut. Cos. received in Prussia in the same period premis. to the amount of 4,548,848 th., and paid losses to the amount of 3,771,363 th. The Share Cos. receipts for premis. were, in Prussia, 28,793,804 th., and their losses, 15,840,964 th. Thus the total receipts of Cos. were, in the above 3 years, 51,553,365 th., and the losses paid by them, 34,401,495 th. In 1872 the sums insured were from 8,149,866,213 th., 1870, to 9,064,693,186 th.

The German societies had from 1870 to 1872 a total revenue of 47,421,210 th. The total stock was, at the close of 1872, 44,490,240 th., of which but 9,981,593 th. had been paid in. Besides, 17 Cos. held a reserve fund of 6,669,240 th., while 5 Sos. showed a loss of 627,751 th. The amount insured in all German Cos. (Prussia included) at the close of 1872, showed an increase since 1870 of over 460 millions on buildings, and of over 45 millions on furniture, stock, etc.

1875.—The T. on p. 260 shows the financial position of the leading Fire Ins. Cos. of Prussia and of Germany at the close of this year. Note.—With respect to Cos. which have several branches, only the *Fire* ins. bus. is given. The figures mean Marks, except in the case of the Bavarian Mortgage and Exchange Bank, where they signify Florins.

1876.—The following return, prepared for the purpose of assessing the contributions by the Cos. towards the Salvage Fund, shows the amount of Fire bus. transacted in Berlin for the years 1875 and 1876. It will be observed that all the offices but 8 show an increase :

COMPANY.	Amount Ins. 1st Jan. 1876.	Amount Ins. 1st Jan. 1877.
Aachen-Münchener Feuer-Vers.-Ges.	168,847,703	169,804,837
Berlinische Feuer-Vers.-Anstalt	138,121,472	147,044,492
Feuer-Vers.-Bank f. D. in Gotha	119,273,837	120,604,945
Colonia, Feuer-Vers.-Ges.	117,231,500	118,843,700
Vaterländische Feuer-Vers.-Ges.	111,434,750	109,639,325
Berlin-Cölnische Feuer-Vers.-Ges.	73,202,617	104,321,293
Magdeburger Feuer-Vers.-Ges.	82,638,385	84,731,201
Leipziger Feuer-Vers.-Ges.	80,096,000	80,366,000
Preussische National-Vers.-Ges.	68,024,186	72,328,461
Bayerische Hyp.- u. Wechsel Bank	66,842,961	67,639,850
Union, Feuer-Vers.-Ges.	55,827,100	59,641,242
Preussische Feuer-Vers.-Actien-Ges.	44,547,500	53,475,300
Gladbacher Feuer-Vers.-Ges.	55,784,111	52,224,219
Schlesische Feuer-Vers.-Ges.	52,437,268	51,204,693
North British and Mercantile	32,924,631	37,599,486
Thuringia, Feuer-Vers.-Ges.	34,753,533	36,362,388
Westdeutsche Feuer-Vers.-Bank	57,486,306	34,097,893
Deutscher Phönix, Feuer-Assec.-Ges.	28,782,564	29,942,442
Providentia, Feuer-Vers.-Ges. in Frankfurt a. M.	26,180,549	27,439,355
Basler Feuer-Vers.-Ges.	24,801,440	24,962,026
Deutsche Feuer-Vers.-Actien-Ges.	21,054,554	20,411,640
Londoner Phönix, Feuer-Assec.	10,171,588	14,358,244
Feuer-Assecuranz-Verein in Altona	9,358,790	11,085,470
Adler Feuer-Vers.-Actien-Ges.	9,829,174	9,139,256
Oldenburger Vers.-Ges.	8,148,459	7,805,798
Aachen-Leipziger Vers.-Ges.	—	5,633,308
Lübecker Feuer-Vers.-Ges.	2,285,370	5,106,075
Feuer-Vers.-Ges. zu Brandenburg a. H.	2,117,256	3,265,188
Hamburg-Bremer Feuer-Vers.-Ges.	2,455,252	2,154,304
Royal Insurance Company	2,398,976	1,223,172
Summa Mark	1,507,058,832	1,564,455,603

I. PRUSSIAN COS.

NAMES.	Capital Stock	Amount of Ins. effected in 1875.	Gross Receipts in 1875.	Net Prem. Receipts for 1875.	Premiums, less Receipts on Canceled and Re-ins. Pol.	Premiums brought forward from 1874.	Paid Losses, deducting Re-ins.	Prem. Reserve set aside for 1876, etc.	Reserve to meet Losses set aside.	Other Reserves.
Aix Munich	9,000,000	4,152,310,585	17,098,816	6,639,531	4,485,100	9,421,034	1,951,669	5,302,112	253,500	4,836,799
Adler	3,000,000	ca. 230,000,000	1,470,083	768,902	513,616	407,438	393,799	197,795	307,233	.....
Altöner Fire Ins. Union	.....	61,005,707	354,872	257,729	231,756	106,521	129,730	92,361	16,000	391,935
Berlin-Cologne	6,000,000	730,417,919	2,404,972	1,958,083	1,288,873	1,288,873	1,288,873	477,252	179,896	53,060
Berlin-Ins. Co.	6,000,000	850,384,079	2,161,781	1,400,368	1,001,786	584,409	370,140	612,234	67,295	445,500
Brandenburg	.....	60,802,186	248,533	183,532	143,476	.....	55,756	44,376	24,923	5,714
Colonie	9,000,000	3,058,557,335	10,007,113	4,547,551	3,200,532	1,222,950	1,222,950	1,251,000	132,000	6,080,875
German Fire Ins. Co.	3,000,000	457,001,287	1,008,868	1,348,587	1,011,028	462,078	670,519	553,788	35,854	35,854
Gladbach	6,000,000	1,010,665,126	3,101,028	1,743,074	1,124,254	1,236,654	467,011	568,747	81,923	558,219
Magdeburg	15,000,000	7,327,547,072	21,481,940	16,810,368	7,783,125	6,977,340	4,712,065	7,434,043	2,117,362	1,878,067
Prussian Fire Ins. Co.	3,000,000	619,020,827	1,715,621	1,423,459	827,186	243,000	339,566	248,187	115,971	.....
Phoenix of Frankfurt-on-the-Main	9,428,580	2,246,997,352	5,764,354	3,066,350	2,281,812	1,734,237	884,539	1,807,746	83,810	1,187,855
Providentia	13,714,286	.....	2,543,577	1,785,737	1,335,506	575,943	612,740	640,078	135,527	184,391
Schlesisch Fire Ins. Co.	9,000,000	1,361,351,665	4,344,689	2,788,408	1,513,135	1,106,347	1,045,718	1,206,000	222,517	402,207
Thuringia	6,750,000	1,172,089,522	3,753,504	2,761,688	1,995,823	770,524	1,030,725	939,806	171,845	17,746
Union of Berlin	4,500,000	525,029,689	1,191,657	949,953	496,289	145,931	239,615	169,148	39,654	50,000
Vaterländische of Elberfeld	6,000,000	ca. 2,350,000,000	7,899,663	3,421,700	2,104,357	1,475,102	1,200,897	1,497,765	154,994	2,286,919
West German of Essen	6,000,000	759,088,048	1,722,438	1,222,438	1,208,096	416,131	351,945	444,421	63,624	108,134
Schwedt Ins. Co.	.....	364,965,509	.....	1,218,919	812,613	641,609	.....	.....	.....	.....
Preuss. National Ins. Co. of Stettin	9,000,000	1,109,670,817	2,724,761	1,943,584	1,310,608	781,176	650,931	826,342	42,000	979,324

II. OTHER GERMAN COS.

Bavarian Mortgage and Exch. Bank	fl. 3,000,000	746,385,298	fl. 1,718,250	fl. 1,072,018	.....	fl. 385,013	fl. 124,744	fl. 348,618	fl. 43,372	fl. 1,040,000
Chemnitz Fire Ins. Co.	.....	63,000,579	191,804	170,740	72,914	7,255	27,853	10,264	7,809	.....
Gotha Fire Ins. Bank	.....	2,490,206,000	11,534,851	7,327,623	.....	3,578,768	916,610	3,711,406	405,209	.....
Hamburg-Bremen of Hamburg	6,000,000	437,083,688	3,717,027	2,598,942	1,359,492	800,000	436,344	900,000	247,888	450,000
Hanseatic F. Ins. Co. of Hamburg	1,623,000	14,353,592	.....	292,138	140,191	.....	45,641	14,000	.....	900
International F. Ins. Co. of Hamb'g	500,000	.....	.....	.....	.....	.....	.....	.....	.....	.....
Leipzig Fire Ins. Co.	3,000,000	.....	5,138,477	2,068,278	2,068,277	2,538,717	1,097,338	2,609,723	133,405	2,361,107
Lübeck Fire Ins. Co.	3,000,000	161,599,503	696,171	656,289	308,826	97,496	106,282	102,433	59,607	352
North German F. Ins. Co. of Hamb.	1,500,000	184,980,766	1,066,392	860,724	458,249	155,691	180,725	173,433	43,916	248,995
Oldenburg Ins. Co.	3,000,000	408,019,826	1,179,793	801,842	618,965	266,311	332,740	290,934	34,752	14,343
Transatlantic F. Ins. Co. of Hamburg	4,000,000	229,600,499	1,904,132	1,363,531	498,870	203,400	322,479	264,325	56,374	111,060
Agricultural Mutual Fire Ins. Co.	.....	37,394,589	72,563	71,690	46,332	.....	2,560	24,214	1,142	24,214

The Fire Ins. bus. in the City of *Bremen* this year (1876) exceeded 33½ millions stg. in sums insured. The losses were '012 p.c. The premiums were £40,000, from which there resulted a net profit of £4000. An excellent Salvage Corps rendered efficient service. During the year there were, one large fire, 9 ordinary, and 89 small fires, besides 340 chimneys. The loss on house property was £3413.

1877.—At a Convention of the Social Democrats held at *Cologne* towards the close of this year, it was resolved that a petition be prepared and addressed to the Gov., praying that F. Ins. might be made a Gov. monopoly. The *Deutsche Versicherungs Zeitung* offered the following caustic remarks upon the proposal:

The idea hatched in the minds of the Social Democrats is as impracticable as their other notions about having the State undertake everything that relates to work and subsistence. All these ideas are Utopian. They are popular only with ignoramuses and pot-house politicians, who grudge men the honest fruits of their toil. That a labourer is worthy of his hire is the *punctum saliens* in every kind of business. If the principle is disregarded, society must cease to exist.

1878.—There is contained in Part II. of the "Zeitschrift des Königlich Preussischen statistischen Bureaus, redigirt von dessen Director Dr. Ernst Engel," for this year, a paper by von H. Brämer: *Die Lebens- und die Feuerversicherung im preussischen Staate und im Deutschen Reiche in den Jahren 1875 und 1876, mit Rückblicken auf frühere Jahre*; wherein is contained:

1. A complete list of all the Public (*Staats anstalten*) Fire Ins. Offices [designated in this work State or Municipal Ins. Funds], of which 42 are enumerated as existing in Prussia, and 31 in other parts of Germany—total 73. Those in Prussia had insured at the end of 1876, immovable property to the amount of M 11,469,224,183, and movable property to the value of M 790,566,756. Those in other parts of Germany,—Immovable property M 11,317,421,032, and movable property M 2,149,600—total, immovable (*Immobiliarvers*) and movable (*Mobiliarvers*) property insured M 23,579,361,571. The dates of the estab. of these respective funds are not given.

2. A complete list of all the Private Mutual Fire Offices (*Privat-Gegenseitigkeits-anstalten*) for fixed and movable property. This is by far the most numerous class of Fire Ins. Asso. in Germany, there being 242 in operation at the close of 1876, insuring M 3,673,672,463. Of the total number, about two-thirds are for the ins. of movable property. These asso. prevail much more in certain Provinces than in others. While indeed there were but 27 in the whole of Prussia, there were no less than 142 in Schleswig-Holstein. In Hannover there were 34. Many of these partake of the nature of Gilds, and date back into the last, and even preceding century. The *Neuendorfer Mobiliargilde* indeed dates back to 1585. The *Tiegenhofische Brandordnung* bears date 1623; the *Seestermüher Kätthner-Brandegilde* 1641; the *Heiligenstadter Kampergilde*, 1665; and various others in the same century.

3. Also a complete list of the Proprietary Fire Cos. (*Actiengesellschaften*) of Germany. These are 36 in all—25 of them devoted to Fire Ins. alone, and 11 combining some other branch of bus., as Marine or Transport Ins. The 25 Cos. had fire risks running at the end of 1875 for M 32,808,711,957; as to the others, the amount was only given in a few cases, but approximately it might reach one-fifth, or even one-fourth of the last-named sum. Of the individual Cos. forming this group, we have already given many details; but the dates of foundation not being given in the art. before us, we cannot complete our list in the manner we had contemplated.

There were in add. 11 Foreign Cos. transacting bus. in Germany—5 of these being English; the others, French, Swiss, etc. These had ins. in force at the end of 1875 of M 1,021,576,255.

The business of Fire Ins. in Germany appears to be in a healthy and progressive condition.

Fire Ins. Practice.—We have no special comments to offer on the practice of Fire Ins. in Germany. It resembles that of England rather than of France. Under general title FIRE INS. POL. we have already given in detail the conditions of the *German* pol.—noting all special points in *italics*; and drawing attention to several of the most special at the end.

The pol. are not usually made for terms of years.

The *Hamburg* form of pol. will be given under HAMBURG.

Fire Protection.—Measures of Fire Protection in the cities and towns of Germany originated at an early period. We believe the first traces are to be found in *Vienna*; but we have no materials for exact reference at hand. We take the facts available in chronological order.

Beckmann is of opinion that Night Watchmen (*Nachtwachtes*) were appointed in Germany earlier than in any other European country. (See 1580.)

It prob. devolved upon some of the earlier Trade Gilds to take part in the extinction of fires. In more modern times the authorities are empowered to demand the assistance of all classes in the quenching of fires—the poor personally, and the rich through their domestics.

1351.—It is recorded that in Germany a Police Ordinance which had previously existed was renewed this year, which required that two watchmen should be posted on the church steeple in large towns, to look out for fires. The mode of indicating the

location of fires being by flag in the daytime, and by lantern at night. The practice still prevails in some of the cities of the Empire.

1447.—In *Augsburg* a special regulation with respect to building was drawn up and promulgated this year. Herr Beckmann (*Hist. of Inventions*) remarks hereon: "In many towns the first regulations made by public authority for preventing fires will no doubt be found in the general regulations in regard to buildings, which seem to be somewhat older than the particular Ordin. concerning fire." He adds: "In turning over old chronicles it is remarked that great fires began to occur less frequently in the 16th century; and this is undoubtedly to be ascribed to the improved mode of building; the precautions enjoined by Governments to prevent fires; and the introduction of apparatus for extinguishing them." (See 1518.)

1460.—The city of *Frankfort-on-the-Maine* had regulations regarding fires at this date; and these Beckmann regarded as the earliest in Germany. In 1466 the use of straw thatch was prohibited for roofs here; and in 1474 the use of "shingles" for roofs. *Vide* Lersner, vol. ii. p. 22.

1518.—In the building accounts of the city of *Augsburg* "Fire Engines" are first mentioned this year. They are called there "instruments for fires"; "water syringes useful at fires." [FIRE ENGINES.] (See 1447.)

1521.—A general Ordinance regarding fires was issued in *Saxony* this year by Duke George.

1529.—A special Ordin. for the city of *Dresden* was issued this year.

1580.—Montague, during his travels in Germany at this date, was struck with the singular custom of the night-watchmen. He says, "The watchmen went about the houses in the night-time, not so much on account of thieves as on account of fires and other alarms. When the clocks struck, the one was obliged to call out aloud to the other; and to ask what it was o'clock, and then to wish him good night." It was at Inspruck that he first noticed this practice.

We have shown in our general art. FIRE PROTECTION, that a night watch was appointed for the City of London as early as 1268, and the practice perpetuated by special enactment of Edward I. in 1285.

1850.—The condition of the *Berlin* Fire Brigade prior to this date may be learned from the following passages which we draw from the "Times" correspondent's letter of 19th June this year:

The improvement of the Fire Engine Estab. is occupying the attention of the city authorities and the police; in its present form it is very defective; but were it more complete, the insufficient water supply of Berlin would still prove an insurmountable obstacle to any decided improvement. The open tubs of water that stand about the city at certain points, ready to be dragged, if wanted, to the spot, are miserable substitutes for mains and pipes; and as they are not emptied or changed for months together, they become green and stagnant. . . . A fire near the river may be got under if the engines arrive within an hour or two of its breaking out, which is not to be depended on, as a case lately occurred when they appeared just three hours after all the danger was over. . . . But an alteration is proposed in the manner of giving the alarm that will be very desirable. The present practice is that of the middle ages, and might do for a village, but in a great capital is ridiculous. . .

It was the old system of the watchman with his horn. The new system now to be introduced was a very decided advance.

1876.—The Berlin police had under consideration new regulations regarding the height of buildings; and it was proposed to place a restriction in this direction; and although these and some other measures were originated rather in regard to hygienic advantages than fire protection, it was felt that the one would go hand in hand with the other.

1877.—The kingdom of *Württemberg* had at this date 542 salvage corps, consisting of 70,570 members, 2537 fire engines (including two steam fire engines), 3476 portable and hand fire engines, 137,415 metres of tubes for the engines, 6920 fire ladders, and 5366 small roof ladders.

There was pub. by Dr. Elsner, in Berlin: *Allgemeine Brandursachen: Handbuch für den Assecuranzstand.* It treats of the Causes of Fires in general, and contains a series of carefully prepared descriptions of the causes from which fires are supposed to have originated in various places, and under a great variety of circumstances. As the author remarks, the more closely attention is directed to the origin of fires, the smaller will be the number of fires likely to occur from carelessness, and the lower the rates at which companies will be able to afford ins. An examination of the cases described by Dr. Elsner will show how easily precautions may be taken against self-ignition and explosions, and how much property may be thereby saved.

Foreign Ins. Cos. Trading in Germany.—The English Fire and Life Offices have had a tendency to estab. agencies in Germany during at least the greater part of the present century. The *Phanix* Fire was represented in *Hamburg* early in the century, and rendered very substantial aid to its policy-holders at the great fire in that city in 1842. The *Alliance* Fire and Life estab. agencies in various parts of Germany immediately upon its estab. in 1824. In 1851 the more prominent English offices represented in Germany were, beyond those named, the *Crown*, *Eagle*, *Globe*, *Medical Invalid*, and the *Professional*. Since that period other British Cos., small and large, have been represented; and now nearly all our large Offices have agencies there.—See *Life Ins.* 1853, Mr. Neison's evidence.

Most of the large British *Fire* Offices have agencies in the various cities and towns of Germany—some of them transacting a very large bus.—See *Fire Ins.* 1876.

The *French* Offices have not made themselves popular in Germany. Herr Masius said in 1851: "Germany is no ground for the French Offices; they were shut out in the year 1800, and find no confidence: since only the unsound present themselves, and desire to recover their position here."

During the last few years (since 1870) some of the *American Cos.*, *Fire* and *Life*, have had agencies in Germany.

The means by which Foreign Cos. can obtain permission to trade in Germany are spoken of under *Legal Requirements*; see also *Taxation of Ins. Asso.*

Friendly Societies.—The outline we have already given under *Burial Sos.* indicates the certain existence in Germany, from an early date, of what are known in England as Friendly Sos. The association of these Inst. with the Trade Guilds of Germany is but a manifestation of what we here see in the instance of many special Trade Sos.; and affords another strong confirmation of a fact forced upon us from many points of view—that *F. Sos. took their origin in the early Trade and Social Guilds.*—[GILDS.]

In our art. FRIENDLY SOS. we have already reviewed the F. Sos. existing in the city of *Berlin*, under date 1854; while under date 1856 in same art. is given an outline of those in *Bavaria*; under date 1857 of those in *Austria*; and under date 1859 of those in *Hanover*. We here propose to extend the facts relating to these important Inst.

The early asso. of the F. So. class in Germany were after the type of those in England and elsewhere: they undertook to provide a certain fixed allowance in case of sickness; but they admitted members of all ages at one uniform rate of contribution—and that in general not sufficient in amount even for the youngest. As a necessary result these asso. continued to break down and cause vast disappointment and distress, precisely as they have done in all other countries where the haphazard method has been adopted, and the scientific method disregarded. It is only during the second half of the present century that any great improvement has taken place. In the Kingdom of *Prussia* no So. is sanctioned by the Gov., or allowed to go into operation, until its articles of constitution have been submitted to a competent expert, and certified to be framed in such a way as to insure the solvency of the So. Such also is the regulation in several of the German States.

1845.—There was commenced in Germany the first step toward compulsory membership of artisans and others in Friendly or Benefit Sos.—known technically as *Journey-men's Relief Sos.*—to which also the employers of labour are compelled to contribute, and by which means it is sought to secure a provision for all the industrial classes in the event of being overtaken by sickness or accidental injury. These compulsory schemes are placed under the control of the local authorities; but working men who hold life pol., or have made other adequate provision in the event of sickness or other casualties, are not compelled to join any of these Relief Sos. The scheme of these Sos., which have now become very numerous, will be developed as we proceed. They must be regarded as supplemental to F. Sos.; but they have (at a later period) so far usurped the province of the latter that it becomes necessary to treat of the two classes of Inst. simultaneously. See especially 1876.

1855.—Dr. Heym, of Leipsic, a mathematician familiar with the science of Life Contin., founded a So. which was to make a weekly allowance to its members in the event of sickness; but his object was to found it upon "sound, rational and scientific principles"; and therefore very different from the F. Sos. which had been previously in existence in Germany, or at that date elsewhere. Dr. Heym began his work by pub. a paper about the organization of F. Sos.—*Die Einrichtung der Krankencasse (On the Management of Sickness Funds)*, with special reference to Leipsic. It was his chief object in this paper to show the deficiencies of the old system, and to demonstrate in a clear and popular way how a F. So. ought to be organized; what prems. should be charged; and what part of them should be periodically reserved in order to render the So. safe.

Dr. Heym found it very difficult to obtain any German data upon which he could place reliance; and finally he resolved to collect his facts from the books of some F. Sos. in Leipsic. By means of the data thus obtained he found that the duration of sickness at the average age of 45 years had been in *Leipsic* 1'2784 weeks p.c.; while the sickness in *England* according to Finlaison's Rep. (1853) at the same age had been 1'4724 weeks. Making the necessary correction for this variation, he was enabled to avail himself largely of Mr. A. G. Finlaison's labours.

It had been the general rule (says Herr Wilhelm Lazarus, whose narrative we are following—vide *Assu. Mag.* vol. viii. p. 351) in the old F. Sos. in Germany to pay the whole sick allowance only for the duration of 6 months, then to reduce it to one-half for another 6 months; then, if the sickness continued longer than a year, to reduce it still more, and by no means to grant any sick allowance for longer than one year and a half for the same sickness. "It seemed advisable not to give up this system; but nevertheless to allow the members to insure such diminishing sick allowance at reduced prems. Dr.

Heym found by examining the books of the F. Sos. then existing in Leipsic, that he could deduce the prem. for such a diminishing allowance by multiplying them by 0.73391."

The T. of prem. calculated by Dr. Heym for a daily sick allowance of 1 th. during the whole duration of sickness—interest 3 p.c.—was as follows :

Age.	Ann. Prem.	Single Premiums.	Age.	Ann. Prem.	Single Premiums.
20	10.807	240.40	70	54.770	352.87
30	12.852	256.50	80	89.964	366.73
40	16.163	277.42	90	128.398	494.97
50	21.898	300.23	95	145.291	145.29
60	32.951	326.43			

This paper had a very great effect, and appears to have led to the immediate estab. of a So. such as Dr. Heym desired—the *Leipziger Krankencasse* (Leipsic Sickness Fund). The leading features of the So. were as follows :

Benefits might be insured for whole term of life, or for short periods—1 to 5 years. Members admitted from 15 to 50 years of age ; when above 50, only under special conditions. A week's allowance during sickness from 1 to 5 th. [3s. to 15s. stg.]. The prem. to be calculated on the best data at 3 p.c. int.; and to be charged 10 p.c. for expenses and bonus. A bal.-sheet to be made up every year, and an extra prem. charged if the account should show that the liabilities exceeded the assets. In case of a considerable surplus, it was to be divided ; but not until the So. had become of such magnitude that no material variation from average was thereafter to be expected. Two different methods of ins. were introduced—A. the entire weekly sick allowance payable for the duration of the sickness, but not exceeding 18 months ; B. (1) entire allowance payable for 6 months, one-half for the next 6 months, and one-fifth for the then succeeding half-year ; (2) one-half of the allowance payable, if the sickness does not entirely prevent the member from working, for the duration of 1 year, and one-fifth for the then succeeding 6 months ; (3) one-half of the allowance payable if the patient is convalescent, and in the third semestre only one-fifth. For one and the same sickness no allowance granted longer than 18 months continuously. If the sickness last longer, a medical investigation was to decide whether the patient was to be considered curable or not ; if curable, he to have no claim to sick allowance until completely cured, and no other allowance to be made for sickness until a year afterwards. If incurable, and he has not been a member for 20 years, the Board of Directors to decide whether any future claim should be allowed ; but if he had been a member 20 years, he was to receive annually, for the remainder of his life, such sum as his sick allowance would have amounted to in the year when he became an invalid, according to the T. of average amount of sickness. All disputes and questions between the So. and its members to be settled by arbitration.

The So. made very rapid progress, and its experience during the first 4 years is thus recorded :

End of	No. of Persons Insured.		Weekly Sick Allowance.		Persons Falling Sick.		Days of Sickness.		Mortality.	
			Whole Term of Sickness.	Diminishing rate.						
	Males.	Females.	Thalers.	Thalers.	Males.	Females.	Males.	Females.	Males.	Females.
1855	321	176	330	539	20	8	338	132	...	...
1856	867	568	691	1957	165	79	3570	1713	5	1
1857	1386	1064	1040	3768	361	240	7621	5501	15	6
1858	1650	1326	1212	4490	472	335	8500	6420	11	14

There was a surplus on the sick fund of about 1500 th. at this date.

After such results it was not surprising that Dr. Heym should desire to extend the operations of the So. over a wider area : hence it was proposed next to carry its operations into *Saxony* generally, and afterwards throughout the whole of Germany. In this view the learned founder put forth another paper—*Observations on the Books of the Leipziger Krankencasse*. Herein he reviewed the data originally obtained, and gave illustrations of the past working. During the existence of the So. the form of proposal had been changed very often. Medical examination had greatly increased. In 1853 out of 544 proposers 20 had undergone a medical examination, and in 1858 no less than 331 out of 999. The physicians had generously renounced nearly every fee for examination—to the extent of nearly 1000 cases. Special care had been taken to avoid fraud ; and in no case was the weekly benefit to exceed the weekly earnings of the members. The prem. were payable monthly, and it was in the collection of these that the chief expenses were incurred.

There had been a careful investigation as to the days of the week in which sickness usually commenced with the respective sexes. Here is the result :

According to Dr. Heym these results were easily accounted for : there existed such a powerful inclination towards amusements—which in Germany usually take place on the Sunday—that a slight uneasiness is overlooked, and not notified to the So. until Monday ; on the other hand, the Sunday pleasures, which often are sought for when the body is exhausted and ought to repose, are enemies to health, and cause a great deal of slight, and often serious uneasiness. Thus the number of persons falling sick is larger in the beginning of the week, and principally on Monday.

	Males p. c.	Females p. c.	In General p. c.
Sunday	8'10	8'90	8'41
Monday.....	20'46	19'90	20'24
Tuesday	19'10	17'80	18'60
Wednesday ..	17'86	13'92	17'84
Thursday	12'98	17'80	13'35
Friday	10'49	9'38	10'06
Saturday	11'01	12'30	11'50
	100'	100'	100'

Each branch of the bus. forms a separate Mut. So. The *Health Annu.* feature was brought into prominence. This we shall speak of under *Health Ins.*

1861.—In *Prussia* there are a number of Miners Friendly Sos. (*Knappschaften*). At this date there were as many as 190,000 members enrolled in these. We shall have occasion to give some statistics concerning these under MINERS.

1872.—Among the witnesses who were examined under the Royal Commission on F. Sos. (England) appointed in 1870 was Mr. J. A. Crowe, the British Consul-General in Saxony. His evidence was taken this year, and will be found in detail in the 3rd Rep. of the Commission. From it we take a few passages of interest :

24,031. Can you give us any information as to the system in any part of Germany of making provision among the poor for sickness or death?—The poor are not favoured in this respect beyond any other class of people. There is a general constraint for all classes of working men to subs. to so-called "Cassen," or Sick and Death Funds. Throughout the whole of Germany this constraint exists under various forms.

24,032. Do you mean that it exists by law?—It exists by general and by local law.

24,033. What is the nature of the general law on the subject?—The general law states that this constraint exists ; it makes some general regulations upon the subject ; it leaves to local municipalities, for instance, the details of measures for forcing working men to regis. themselves, and become members of these Cassen.

24,034. How are the class who are intended to be included in that constraint defined?—A Local Act for the whole class, at Elberfeld, may be considered a model ; it takes in all members of trades, and enumerates all persons under the general name of mechanics and working men ; you would find there all factory operatives, all carpenters, painters, and masons, . . . joiners, smiths, lock-smiths, engineering mechanics, and in fact every trade which formerly had what was called *Guild-right*.

24,035. Do you mean in some Local Ordinance these different classes are enumerated?—They are.

24,036. And that it is provided by such Ordin. that members of these trades shall make certain provision for themselves ; are they subject to penalties if they do not?—They are ; the penalty is 14 days' imprisonment or 10 thalers fine. I have here a notice which was issued a few days ago at Leipzig calling upon the workmen to enter ; it is addressed to the companions, journeymen, and factory operatives of Leipzig, calling upon them to subs., as they ought, to Sick and Burial Cassen, under penalty of a fine of 20 thalers, or 14 days' imprisonment ; so that even a non-registering of themselves as having joined the Club subjects them to a penalty.

24,037. Under whose management are these Clubs?—Most of the Trade Clubs are under the management of committees elected by the manufacturers and workmen in each trade.

24,038. Are they under the supervision of the State or the Local Gov.?—It is supposed that in the last instance, in the event of any illegal act being committed, they would be subject to action on the part of the Gov. ; but there is no very effective Gov. control. Still it is a fact that they are subject to municipal control, at Leipzig, for instance. . . .

It seemed from further evidence doubtful whether this compulsory membership extended to agricultural labourers ; but it certainly did to day labourers, and in some parts of Germany to domestic servants. Evidence continued :

24,076. Do the police take any part in the management of these funds?—The police office is part of the administrative machinery through which the registry of operatives is worked. I have here a list of what the police in Leipzig, for instance, does. It registers all persons who come into the town ; all persons being workmen in trades who come into Leipzig ; all persons seeking service as servants in Leipzig ; and all persons of all these classes leaving Leipzig are regis., together with the place where they reside, and the trade in which they are employed ; and if it be necessary for control to ascertain whether a workman is subscribing to a Casse or not, reference is immediately made to roll of the police office. . . .

24,083. Will you tell us what is the system of the Voluntary Casse?—The Voluntary Cassen are usually connected with Life Ins., and their office is divided into 2 or 3 departments, for Life Ins., Sickness Ins., and for Burial Ins. There, as far as I have ascertained the fact, the payments are always the same ; but an entrance fee is charged according to the age of the applicant.

24,084. Are these Cassen of which you speak Ins. Offices to which all classes resort, or are they offices more especially for the benefit of the lower classes and the working classes?—They are for all classes ; but *de facto* they are only used by the poorer classes.

24,085. Do the agricultural labourers, for instance, belong to them?—Yes, but in small numbers.

24,086. Do they have no general system of ins.?—None.

24,087. With regard to the artisans and others who belong to them, why do they belong to the Friendly Cassen rather than to the compulsory ones?—There is a general tendency to make the registry and subs. to Cassen as general as possible, and therefore it is stated to be optional with any one either to subs. to a Trade Casse, or to subs. to a Voluntary Casse.

24,088. Then if a man subs. to a Voluntary Casse, he is free from the obligation of subs. to his Trade Casse?—At once. It goes even further. If a man can show that he makes weekly or fortnightly payments to a hospital for the possible event of his becoming sick, that is held to be

sufficient to excuse him from the constraint of subs. to a Casse; that, however, is peculiarly local to Leipzig.

24,089. What is that system of subs. to hospitals?—Making a weekly payment equivalent to the weekly payment which is made to the Casse.

24,090. Does that give the man a claim to admission into the hospital whenever he is sick?—Yes.

24,091. Are these hospitals Municipal Inst.?—They are. . . .

It further appeared that these "Hospitals" are Cos. conducted for profit. Examination continued:

24,096. Are the payments to the Voluntary Cassen about the same as in the State Cassen?—They are much lower.

24,097. How comes it that they are able to take the payments at a lower rate?—Because the normal sum which is given to persons who are sick is less than the sum which is given by the Trade Cassen. . . .

24,101. Do many of the Voluntary Clubs fail?—The Voluntary Clubs do not. . . .

24,109. Do you know whether they have been long in existence?—Some are over 100 years old in Leipzig; but it is only since 1855 that they have been regulated upon scientific principles. . . .

24,114. What is the connexion between these Clubs and the system of *Poor Relief*?—All classes of workmen being supposed to subs. to a Club, the first questions which are put to a pauper applying for relief are: "What amount have you been in the habit of paying to the Sick Fund? What is the amount which you expect to receive in the event of sickness, and what is the amount which your heirs are supposed to receive in the event of your death?" These questions are put to every pauper when he applies for poor relief. The poor, when they are sick, are usually taken out of their houses, and sent to the hospital; that is done out of a wish to avoid disease, and particularly epidemics. If the pauper who is sent to the hospital has been making payments to the Sick Club, and is entitled to sick money, the *Municipal Gov. charge to the Sick Fund the price of the pauper's being taken care of in the Hospital*; they do so at a lower rate than they would charge to an ordinary workman; but knowing that the man is a pauper they charge him one-half, and that brings one-half of the Sick Fund into his pocket.

24,115. Is there any system of outdoor relief?—It is almost all outdoor relief in Germany; there is little of what we should call indoor relief. . . .

24,126. Is the system much the same elsewhere [as in Leipzig]? It is much the same in all large towns, the system of poor relief in towns differing materially from what it is in agricultural districts; in the agricultural districts it is regulated by the State, and in the towns by the Municipal Law. . . .

24,129. Are there any statistics of the Cassen?—The statistics of the Cassen are not to be had; there are statistics in special provinces. I have something like the statistics for one year in the province of Düsseldorf, and statistics for one year of the district of Gladbach. Also some broad statistics for one year in Leipzig. The general results I have here.

24,130. Perhaps you will tell us what are the most interesting figures, and the results which you have extracted from them?—For instance, in the Gladbach district in 1863, with a pop. of 55,564, there were 18,057 subs. to Sick and Death Cassen. In the province of Düsseldorf in 1864, with a pop. of 563,823, there were 589 Cassen, with 134,057 subscribers. The receipts of those Cassen are put at 354,497 thalers, and their expenses in the same year at 147,431 th. With reference to the expenditure in this case, I have serious doubts as to the correctness of the figures.

24,131. You mean that they are under the mark?—I should say decidedly under the mark. In Leipzig there are 4 distinct classes of Sick and Death Clubs—the old Guild Cassen, of which there are 40, with 7500 members; the Trades Cassen, of which there are 11, with 4155 members; the Factory Cassen, of which there are 18, with 2493 members; and the Free Cassen, of which there are 18, with 4935 members. In 1868, with a pop. of 90,000, and a total number of Cassen of 87, there were 19,114 members. The masters contributed 2541 thalers; the workmen 47,766 thalers, and the amount expended was 52,105 th. It was found that there was a deficit for the year of 164 th. in the Printers Fund, and a deficit in another Casse of 22 th.

24,132. The contribution of the masters appears very small in comparison with that of the workmen; can you account for that?—I cannot account for it in Leipzig except in this way, that the compulsion is not so complete in Saxony as it is in Prussia.

24,133. By "compulsion" do you refer to the compulsion on the masters, or on both masters and workmen?—On the masters. The Prussian local law states that subscriptions to Cassen are compulsory; the Saxon law says that masters may be required to subs. to Cassen. In any stat. it is said that the interpretation of these words "may be" is that compulsion exists; but it is clear, I take it, from the small amount which the masters subscribed in 1868, that the compulsion is very lax. If you refer to the Prussian figures, you will find that the Prussian masters subs. more. In the province of Düsseldorf, in the year 1864, the contributions of the employers were 53,829, and those of the workmen 248,600 th. . . .

24,137. Is there any distinction between what are called Trades Cassen and what are called Zwangs-Cassen?—Amongst the bye-laws there is a rule which says that if the existing Cassen are full, or there does not exist a Casse, then the Municipality is bound by law to form and estab. one, and that is called a Zwangs-Casse.

24,138. Then the Trade Cassen may be full?—Yes.

24,139. They are limited in numbers?—Sometimes when the numbers are too large, the Casse is divided into 2; as, for instance, the Printers Casse in Leipzig.

24,140. As regards the Trades Cassen, we will take the Printers for instance, those in a Trade Casse of the Printers, and that, as I understand you, is managed by a committee elected from among the body of the Printers?—Yes.

24,141. To that nobody belongs except Printers?—Nobody except Printers.

There was much more that was instructive in Mr. Crowe's evidence; but we have followed it far enough for our present purposes.

1875.—Dr. Max Hirsch pub. in Berlin: *Die gegenseitigen Hilfskassen und die Gesetzgebung*—Mutual F. Sos. and Legislation—which is regarded as a work of considerable merit. It is mainly devoted to the F. Sos. of Germany, although considerable familiarity is shown as to the working and position of these Sos. in the U.K., and elsewhere. In the first portion of the work Dr. Hirsch contrasts the system of Relief Funds founded on compulsory payments with the system of assu. benefits founded on voluntary payments by those who desire to receive such benefits. It had been argued that as the working classes of Germany did not voluntarily insure themselves, they must be made to do so by law, and through commissioners appointed for the purpose. But had the system answered? In E. & W. it was found that about 1 in every 6 of the pop. belonged to F. Sos.; and he proceeds to investigate the facts in Germany with a view to comparison.

My views as above stated may seem to be extreme, and some persons may not be ready to assent to them fully. I will therefore take the liberty of explaining, how it seems to me, from my point of view, the law ought to have been drawn. Of the principles which have been laid down, Beneficial Societies, that stipulate for the payment of burial money and of allowances in sickness, consist of two classes. In Sos. of one class the payments are guaranteed during life, and in those of the other for some short period, such as a year. An intermediate class is a thing wholly unknown. The Act in question, as has been already stated, does not directly relate to Sos. of the former class, but upon the theory on which it is drawn, Sos. of that class should fulfil all the conditions required by the science of prob. In respect to details of organization and management they should be strictly held up to the standard of a properly organized and properly managed Life Ins. Co.

But Sos. organized upon this principle would not be adapted to the wants of a fluctuating pop., such as that made up of mechanics and working men. The successful management of Sos. so organized would pre-suppose greater capacity for administration than that commonly possessed by working men. In framing the law it would be better to have exclusive reference to the encouragement of Sos. of the second class above mentioned.

In Sos. of that class, the assessments are moderate, the accumulation of large funds is not necessary, and their management is simpler. *But it ought to be distinctly stated in the art. of such Asso., that they do not guarantee absolutely the performance of any obligations that extend over more than one, or at most two years, and, moreover, that the performance of no obligation whatever is guaranteed, except while the members are at least of a certain number, which number is to be specified.* This latter provision should be contained in the art. of asso. of all kinds of Benefit Sos.

Finally, and to give his views a definite form, he recommended the incorp. of the following provisions into the Act: further remarking that as the principles upon which regularly constituted Life Cos. should be organized were well understood, he did not think there was any need of introducing into the new Law regulations which should apply to Sos. which he speaks of as those of the "first class," beyond requiring a certificate by competent experts, approving the scheme upon which they were to be founded.

1. Benefit Sos. shall be of two classes. Those Sos. which assume obligations continuing during life shall be of the first class. Other Sos. shall be of the second class, and shall not assume obligations continuing longer than two years. Every So. in its art. of asso. shall expressly state the class to which it belongs.

2. Sos. of the first class, being founded upon the science of prob. as applied to the duration of human life, shall conform to the requirements of that science, and shall adjust the contributions exacted from each member according to his age, so that a proper reserve may be accumulated as called for by the T. of Mort. The reserve must be calculated at least as often as once within five years, and the contributions must be increased, if found inadequate, or may be reduced, if found to be larger than is necessary.

3. In Sos. of the 2nd class the net aggregate amount ann. of the contributions of each member to the sickness fund shall equal the weekly allowance made in case of sickness, and the net ann. contribution to the burial fund shall be at least one-fiftieth of the burial money the member is to receive. The per-centage to be added to these net contributions on account of expenses shall be the percentage of the gross income formed by the expenses of administration in the place where the So. is situated.

4. From the surplus which will result from the contributions hereinbefore prescribed, a reserve fund shall be created, which, within a period not longer than 3 years, shall be made equal to the ann. income. *Whenever it shall be found, after the organization of such a So., that the sickness or Mort. experienced by reason of some peculiarity in the occupations of the members, or for other reason, is greater than the average or than was anticipated, so that the reserve fund will not be accumulated within 3 years, the assessments upon the members shall be proportionately increased.*

5. Whenever the reserve fund has reached the required amount, the assessments may be proportionately reduced, but shall be forthwith increased if the fund become impaired, or if it shall have become evident that impairment will be inevitable upon the existing rates.

6. In Sos. of the 2nd class, no allowance shall be made to retiring members on account of past payments in any case whatever.

7. No association of either class shall be organized before at least 100 members shall have associated themselves together for the purpose, and, whenever the number of members shall become less than 100 and shall so continue during the period of 2 years, the So. shall be dissolved.

These opinions are entitled to great weight,

1876.—The expected law, to which we have already referred, was enacted by the German Parl. 7 April this year. It appears to contemplate the division of the then existing F. Sos. into 2 classes—first and second. The Sos. of the first class were to be regis. under this law, and were then to be designated Registered Sos. (*eingeschriebene Hilfskassen*); while the Sos. of the second class fall under the provisions of the *Gewerbeordnung*, or General Law on Trades. We shall endeavour to make clear these distinctions in the following abstract:

The objects of the German *Hilfskasse*, or F. So. of the first class, are confined to the maintenance or relief in sickness or convalescence of the members, medical treatment for their families, and maintenance for the families of deceased members—thus excluding payments on death, relief on travel, and various other objects permitted in the U. K.

The name of the So. must not be the same as that of any other So. in the same place or commune, and must have added to it the words "Registered F. So."

The provisions required to be inserted in the rules do not differ greatly from those required in the U. K., except where they refer to the contingency of employers being legally bound to contribute to the funds of the So. *It is expressly provided that the rules shall contain no provision not connected with the objects of the So.* The provisions for quinquennial valuations, for returns of sickness and mort., and of bal.-sheets, correspond closely with our own. The leading differences are, 1st, that on many points which are with us left to the discretion of the Sos., a fixed rule is laid down by law; 2nd, that an amount of interference on the part both of the local and higher Gov. authorities is allowed or prescribed, which if attempted in the U. K. would lead to the loudest clamour against the officialism of the system. *Arrears* of payments by members, and their employers, may be legally recovered for these Sos.

As an illustration of the first, it may be mentioned that the period when a member becomes entitled to *benefits*, with us altogether a matter of mutual contract, and determined by the rules of each particular So., is by this German law fixed at the 13th week after admission at the furthest; and the right to relief is preserved to the member for the same period after *withdrawal or exclusion*. The same period (13 weeks) is again fixed as the *minimum duration of relief*, if the disability to work should so long last. A minimum and maximum amount are fixed for the *daily relief* itself—which for men must

be at least *one-half*; and for women *one-third* of the wages of ordinary day-workers, calculated on the average of the year, in the locality of the So. at the date of the rules: such amount to be determined by the judgment of the Communal Board; but on the other hand must not exceed five times the legal minimum. The proportion of medical to other relief is limited to *two-thirds* at most. The grounds on which *exclusion* is allowed are specified by law, viz. upon failure to comply with conditions of entrance; or in case of default of payment; or of some such punishable act as constitutes a violation of the rules. "No member of 2 years standing can be excluded on account of withdrawal or exclusion from a So. or Union." If the exclusion take place before such time, there is a right to return of entrance money. A So. is not allowed to refuse relief for particular diseases.

As instances under the second head, it may be pointed out that whilst the *refusal to regis.* a So. is only allowed when the rules do not comply with the provisions of the law, and an appeal is open against it (though apparently only to an administrative superior), yet *all* Sos. are considered to be under superintendence. The superintending authority (*Aufsichtsbehörde*) appointed for the purpose by the Provincial Gov. has a right at all times to *inspect the books* of the So.; it receives yearly *bal.-sheets*; may require notice of withdrawals; may give formal notices to Sos.—entailing dissolution if not complied with—to call in arrears of contributions, or exclude defaulters as soon as more than one-fourth are in arrear if demand for payment be not met; or to revoke illegal resolutions of gen. meetings; may appoint liquidators to wind up the So. if the board fails to do so, or if the So. is closed; may call general meetings when the board of directors fails to do so; may fine members of the board on liquidation of the So. up to 100 marks for failing to do their duty in sending returns and notices of withdrawals. The higher administrative authority (*höhere Verwaltungsbehörde*) is the one which decides on the registration of the rules and registers them; receives quinquennial valuations, returns of the number of members, of the sickness and mort. of the So., etc.; and orders the closing of the So. (subject to an administrative appeal) in five specified cases. It is, moreover, the "superintending authority" for all federations of Sos. whose boards of directors sit within its jurisdiction. The Communal Board again plays a subordinate part in the official *surveillance*, which appears distinct from that of the "superintending" or higher "administrative" authority. It receives, in the first instance, the rules in duplicate, and transmits them to the higher administrative authority. It values the current wages, on the basis of which relief is to be calculated. It has to receive notice of the composition of the board of direction as well as of all changes in such board. It identifies the board for purposes of title.

It must be borne in mind that the preceding regulations apply to Sos. of the first class—to what are termed the "Free" Sos. But as we have stated, these only constitute one portion of the German system. According to the law of 8th April, 1876, amending the *Gewerbe Ordnung*, the formation of F. Sos. of the second class *may be ordered by local regulations*. In this case the communal authorities, after hearing the parties interested, proceed to frame the rules of the So.; and then to call upon all working men aged 16 and upwards to join it, *unless already members of some Regis. So.* And in like manner, *it is compulsory on all employers to advance the contributions of their workmen to the So. so estab. by the commune, up to the amount of one-half their wages; and to subs. themselves to the So. up to the amount of one-half of the contributions of their workmen.* The same powers as those given to the Communes are also given to the "larger Communal Unions." It is clear that in all this there is the attempt to make F. Sos. stand in the place of the English Poor Law system; and we have seen in our general hist. of FRIENDLY Sos. that towards the close of the last, and early in the present century, a like system of local compulsory Sos. was in contemplation in this country.

It has to be added that wherever the membership is compulsory on the part of workmen,—and we see the effects of this compulsory principle in many parts of the practical working of German F. Sos.,—there can be no lowering of contributions, nor raising of benefits, without the approval of the Communal Board, or that of the larger Communal Union; and where, according to the last year's bal.-sheet, the receipts of the So. have not met its lawful expenditure, the same authority can require the *contributions to be raised*, or the *benefits to be reduced* to a legal minimum. Further still, the communal authorities, or those of the larger Communal Union, may, under certain circumstances, entrust the management of the So. to persons of their choice, or even undertake it themselves.

The English Chief Registrar—from whose Rep. for 1876 we in the main draw the preceding—remarks generally on the F. Sos. of Germany: "It is not too much to say that, under such a weight of official oversight, the free and multiform development of *our* F. Sos. would have been impossible." Again: "Legislation of the above description obviously belongs to a social state widely different from that of our own country." pp. 37-9.

The full text of the respective laws is given (translated into English) in the same Rep. pp. 120-5.

From an Official Rep. pub. this year [1876] we find that the number of Relief Sos. in Prussia, with compulsory membership, was 4763, of which 3714, with 507,969 members, were Sick Benefit and Burial Sos.; 699, with 68,905 members, granted sick benefits only;

and 70, with 7586 members, were only Burial Sos. ; while 280, with 192,103 members, were General Relief Sos. [we cannot reconcile those figures with these given by Dr. Hirsch, and already reviewed]. A more special classification of these Sos. by means of the various kinds of indemnity granted by them is made apparent in the following T. :

No. of Societies.	No. of Members. ¹	Kind of Indemnity Granted.
654	188,124	Monetary relief in cases of sickness or death.
3352	354,895	Same with free physician and medicines.
168	13,129	Free physician and medicines.
227	13,708	Free physician, medicines and nursing.
82	11,093	Same with monetary relief.
224	174,229	Pensions to invalids.
9	2,193	Pensions to widows.
47	19,192	Pensions to invalids, widows and orphans.

The sick indemnities are mostly limited in point of duration. The members of the Sos. are entitled to them only for a certain period of time, which usually is under 12 months ; and with 71 Sos. and 12,766 members it only continues one year. In 729 Sos. with 160,371 members, the beneficiary period of time is rated by the duration of membership. On the other side, in the majority of cases (3628 Sos. with 473,341 members), no lapse of time is required to make a member entitled to his benefits.

The contributions necessary to raise funds for the Sos. are either fixed dues, or, in 554 Sos. with 97,644 members, levies dependent on circumstances, but there is no Burial Sos. without fixed dues. The employers, regardless of law, do not contribute to the funds in all cases. The above-mentioned official report states that in 2497 Sos., with 297,243 members, contributions of employers are withheld.

The total amount of contributions and benefits are shown by the following T. :

CONTRIBUTIONS :

I. No. of Societies	II. No. of Members.	III. Occupation of Members.	IV. Contributions of Members.		V. Contributions of Employers per-centage to IV.	VI. Contributions. Grand Total.	
			Total.	Each.		Total.	Each.
			Thalers.	Thalers.		Thalers.	Thalers.
1931	455,583	Employed in manufactories.	1,583,265	3 14 3	39'90	2,214,876	4 25 10
2710	265,145	Employed outside of manufactories.	524,954	1 29 5	6'76	560,445	2 3 5
236	64,550	Employed in and outside of factories	151,442	2 10 4	27'10	192,490	2 29 5
4877	785,278	Total ...	2,259,661	2 26 4	31'34	2,967,847	3 23 5

BENEFITS :

No. of Members.	Occupation of Members.	Sick Benefits Granted.		Death Claims Paid.		Pensions Paid.		Grand Total of Indemnities	
		Total.	Each.	Total.	Each.	Total.	Each.	Total.	Each.
		Thalers.	Thalers.	Thalers.	Thalers.	Thalers.	Thalers.	Thalers.	Thalers.
455,583	Employed in manufactories.	1,530,846	3 10 10	88,637	0 5 10	165,738	0 10 10	1,785,221	3 27 7
265,145	Employed outside of manufactories.	388,877	1 14	40,017	0 4 6	6,606	0 0 9	435,500	1 19 3
64,550	Employed in and outside of manufactories.	144,695	2 7 3	11,381	0 5 3	4,630	0 2 2	160,708	2 14 8
785,278	Total ...	2,064,418	2 18 10	140,035	0 5 4	176,976	0 6 9	2,381,429	3 0 11

The amount of the working or management expenses are very different among the several Sos. Where the collection of the dues can be effected by the paymasters of manufactories, and the book-keeping and other incidental expenses is attended to by the clerks of the manufacturers free of cost, the rate of expense is comparatively low ; but when the contributions have to be collected individually in the several houses or workshops of the members, and other details of management require to be paid for, the expenses aggregate to a higher rate. The average cost of the management of Sos. of which the members were employed in manufactories was 4'51 p.c. ; and the cost among other Sos. 12'58 p.c.

The assets of the Sos. were decidedly smaller than would be expected by the actuary: their total amount being only 4,069,411 thalers—or a little over 5 th. p. member. But it is said in reply that their adequacy need not be criticized too severely in the face of the compulsory character of membership, and the small amount of the indemnities paid for on death, and for pensions. "Therefore a prem. reserve may not be of absolute necessity, and a reserve sufficient to meet extra temporary contingencies will be all which can reasonably be required under the special circumstances of these Sos."—*Vide* "W. S. L." in an able art. in the *Baltimore Underwriter* of 9th Nov., from which many of these details are obtained.

Medical Examinations.—We have already seen that the practice of medical examination prior to admission into F. Sos. is prevalent in Germany, while in the U.K. it is almost unknown. During this year (1876) Dr. P. Michaelson delivered a lecture upon this subject at Königsberg, of which the following is the substance:

The object of these examinations is to protect the Sos. against the admission of members who are already in a diseased state, or who are frequently subject to sickness. The author begins by laying down the principle that a certain period of probation should be fixed before applicants are admitted to membership [as is the practice in the U.K.], and then proceeds to examine the influence of medical examinations in cases where a physical disturbance is difficult of detection. He expresses his approbation of the rule which prevails in most of the Sos. not to admit members who have passed a certain age, or at least not to admit them unless they make larger contributions than the rest of the members. He then considers the influence of *occupation*, and shows the effect of some callings in shortening life, and that of others, like gardening, in lengthening it. All Sos. that undertake the payment of allowances during sickness must pay the closest attention to these matters, if they would avoid heavy losses or, indeed, utter insolvency. The principal authority upon whom the writer relies for his facts and illustrations is Professor Heym, who is, indeed, the highest authority in Germany in this branch of literature. Ordinary physicians seldom have any genuine thorough comprehension of the subject. The conclusions at which Dr. Michaelson arrives are similar to those which have long been adopted by the Life Ins. Cos., and acted upon in practice. They are, in substance, that strict but reasonable and judicious medical examinations, on the admission of members, are indispensable, and that blanks with specific questions must be prepared for the purpose. Thereupon the writer proposes some queries for the consideration of those interested in these Sos. He asks: 1. Whether knowledge of the physician's decision should not be withheld from the applicant, the physician sealing up his report. 2. Whether the applicant's declaration should not be required to state: (a) any disease or complaint from which the applicant suffers; (b) any physical infirmities with which he is affected; (c) cases in which he has been confined to the bed from sickness during the last 5 years. 3. Whether the applicant's answer should not be submitted to the examining physician, and he should not be required to give his certificate upon the same points. 4. Whether all persons more than 30 years of age who have never been members of any local Sos. should not be required to make larger contributions than the others. 5. Whether confidential agents should not be employed to obtain information in regard to each applicant's habits and mode of life, keeping their reports private. 6. The propriety of recommending all who belong to specially dangerous callings to unite together and form an asso. by themselves, with increased rates of contribution. 7. Restricting admission of new workmen into estab. Sos. to exceptional cases, and upon payment of an extra assessment proportioned to the increased liability to sickness.—*Deutsche Versich. Zeitung*.

Funeral Expenses.—The *Mecklinburg* Life Assu. and Savings Bank, founded 1853, had a scheme for ins. *Funeral Expenses*; as also had the *Magdeburger* Life, founded 1855.—See *Burial Sos.*; and *Friendly Sos.*

German Ins. Offices Abroad.—The German Ins. Offices have not, as a rule, extended themselves into other countries, with the exception of the *South American Republics*, where there exist large German communities; and more recently into the *United States*, where the German element is very strong, at least in certain localities. And yet indirectly at least they are very largely interested in the fire ins. bus. of several countries. By means of *re-insurance* contracts, portions of the risks accepted by the *Belgian, French, Dutch, and Russian Cos.*, and by some of the *British Offices*, are accepted by the German Cos., so that they become interested in the great fire casualties resulting in various parts of the world.

The *Azienda* estab. a branch in Lond. in 1867; but this was more particularly for marine bus., in the first instance. The *Adler* (of Berlin) estab. an agency in Manchester in 1872, and has transacted a considerable re-ins. bus.

German Life Assurance Institute.—Founded at Berlin, in 1868. For details see GERMANY, sub-sec. *Life Contingencies*, this date.

Gilds.—These have played an important part in connexion with Ins. interests in Germany. Many of the local mut. fire offices being regarded as Gilds. See sub-heading *Friendly Sos.* [GILDS.]

Glass Ins.—This branch of business was first introduced to Germany by the English offices; but for the last 10 or 12 years—perhaps longer—it has been undertaken by

German offices of three classes : 1. *General*, as offices founded for carrying on other branches of Ins. bus. 2. *Special*, viz. founded specially for this bus. 3. *Local*, being asso. after the manner of mut. asso. or clubs.

Among the offices of the first class carrying on this branch of bus. were the *Schlesische Vers. Ges.* in Breslau ; and the *Transport and Glass Ins. Cos.* of Frankfurt, the bus. of which was mostly of the first description. As these Cos. do not distinguish the premis. and claims resulting from the distinct branches, the financial results of their operations cannot be determined.

Among the offices of the second class are the following : 1. The *Brandenburg Plate Glass Ins. Co.*, which in 1876 received in premis. M 68,298 ; paid in claims M 33,066 ; having, after paying expenses, a profit of M 304. 2. The *Bremen Plate Glass Ins. Co.*, which in 1874 had M 6,738,110 insured ; its claims in the year being M 6060. 3. The *Rostock Plate Glass Ins. Co.*, which had in 1874 ins. in force amounting to M 266,265, with a prem. income of M 3450.

The Asso. of the 3rd class, and which are purely local, exist in every town of any importance in Germany. It is their practice to replace the glass broken or damaged, and not to pay the claims in any other form—an excellent practical provision.

There is indeed a 4th class of Glass Ins. Co., viz. those founded by glass manufacturers, who subs. a cap. of say M 30,000 or M 40,000 for the security of the pol.-holders, and then carry on the enterprise as a branch of their bus.—they thus securing the supply of glass for replacements. There are such Cos. in Hamburg, Bremen, Stuttgart, etc., etc.

On the occasion of the terrible explosion at Bremerhaven, 11 Dec. 1875, it was reported in the newspapers that the Glass Ins. Cos. had suffered considerably ; but in the end it turned out that the claims were only 92 in all, divided among the various Cos. as follows : Rostock Co. 35, Schlesische 18, Bremen 15, Stuttgart 15, English 3, Oldenburg 1 ; and not insured 5 ; while the total damage was but M 17,054.

Hail Ins.—It is prob. that ins. against the devastation committed by hailstorms first commenced in Germany. The origin of the bus. is traced to one Von Müller, a landed proprietor at Mecklenburg. The Gov. appointed a Commission to inquire, consisting of the Count Von Schlitz and others, who entrusted the execution of the project to a committee at Rostock. This was in 1796 ; the project did not take final shape until the following year.

1797.—It was this year that the *Mecklenburgh Hail Ins. Asso.* was constituted. It was founded on the mutual contribution plan ; and the immediate management was remitted to the landholders and agriculturists for whose benefit it was designed ; and by these classes it has continued to be conducted. The system of working is this : no prem. is demanded when the risk is entered upon ; but at the end of each bus. year, the total claims for damage by hail, inclusive of all charges and incidental expenses, are levied by a rate on the sums respectively insured under the pol. This Asso. has continued in existence down to the present day. Under HAIL INS. we shall give its experience.

1812.—There was founded at Cöthen, the *Erste deutsche Hagelversicherung*. This existed for some 12 years as a mut. asso., and then had to dissolve. The levies upon the members during the years 1822 and 1823 simply to meet losses were as much as 2·5 and 5·083 p.c. on the sums insured.

Some of the other mutual asso. of this period were understood to have ended very disastrously.

1818.—There was founded another Hail Ins. Co. of which we find no exact details.

1823.—The *Berlin Proprietary Co.* was founded. Its cap. was 500,000 dollars or about £71,428. (See 1838.)

1822.—There was founded in Berlin a Proprietary Hail Ins. Co., which made good progress. In 1831 the Co. became reconstituted. In 1851 it was regarded as by far the strongest Hail Ins. Co. in Germany. The risks upon its books stood at about 17,000,000 th. (£2,430,000).

1838.—The *Berlin Co.* pub. a record of its 15 years' experience. In this period there was a bal. of loss on 7, and of profit on 8 years. The gen. bal. of trading during the 15 years showed a profit of no more than £10,672 on a total sum insured of £23,591,521.

1839.—The damage from Hailstorms was so great in Germany this year that but few of the mut. asso. could pay their losses *in full* ; and the loss to the *Berlin Co.* amounted to £30,502 beyond the premis. The sum which that Co. had at risk this year was £2,022,228. The loss was paid out of cap., and this was replaced : for the following 5 or 6 years gave more favourable results. The King, Frederick William III., was a shareholder in the Co. to the extent of 100,000 dol. ; but he had only the year previously renounced all profits on his stock for the benefit of adverse years !

1844.—The sums insured against damage and destruction from Hail during this year, in Germany, were : 1. *Mutual Offices*—Cassel Co. £434,980 ; Cöthen Co. £200,218 ; Detmold Co. £78,766 ; Griefswald Co. £389,825 ; Greussen Co. £759,998 ; Hanover Co. £834,720 ; Kiel Co. £344,194 ; Leipsic Co. £1,266,106 ; Munich Co. £177,095 ; Neubrandenburg (or *Mecklenburg*) Co. £1,439,382 ; Schwedt Co. £1,617,296 ; Stuttgart Co. £624,392. 2. *Proprietary Co.*—Berlin, £2,067,800. Thus the aggregate ins. by the 13 offices was £10,234,775.

The results of the year's operations so far as relates to 10 of the asso. for which returns could be obtained were for damage expenses—Mecklenburgh '287 p.c.; Berlin '343 p.c.; Leipsic '45 p.c.; Cassel '597 p.c.; Schwedt '447 p.c.; Detmold '523 p.c.; Greussen '707 p.c.; Hanover, 1'093 p.c.; Stuttgart 1'443 p.c.; Munich (for 1843) 2'01 p.c.

1850.—Herr Masius estimated the aggregate amount of the ins. of this class in Germany at this date at £11,400,000.

1851.—There were at this date 20 Hail Ins. Cos. in Germany—19 on the *mutual* principle; 1 proprietary. Some of the mut. cos. allowed their members to pay, in part, the single and double prems. required in case of deficiency, as after payments—the proportion being optional with the Co. Others apportioned the whole deficiency at the close of the season, and collected in one assessment. One Co. had (about 1849) been founded on the French system of demanding one prem. only, without further liability—the claims being discharged only up to the ratio of the prems. in hand. Herr Masius, in his Address before the Ins. Convention held in London, this year, said :

Next to the preceding branches of assu. [Marine, Life, Fire] Hail Ins. is here best known and represented. It is here as in other countries still in its infancy: although it may be asserted that Germany above all others on the Continent is that country where it appears the most cultivated, if we reckon as the first essential for this cultivation the guarantee of security.

The whole difficulty in this country, as elsewhere, consists in the immeasurable and variable nature of the casualties; in other words in the impossibility of obtaining other than an approximate proper and positive tax for the risk. The distant future may perhaps bring a correction, when all the Cos. have kept a careful register over the yearly losses happening in given spaces of surface, and when, as the position of these cos. for the before-mentioned reasons is uncertain, they pub. such T. for the keeping and bringing together of the results; although I myself have experienced that often but a few hours suffice to annul the computation from obs. (on hail storms) extending over several years. Next to this evil, our cos. based on the system of previous payment of the prem., suffer from the defect that they avail themselves so little of their only resource, of the formation and keeping up of a large reserve fund; and much oftener seek and strive for prosperity by giving large dividends out of the yearly surplus. If this rejected principle had been earlier followed, we should not now find it necessary to notice that within 40 years last past about 6 mut. cos. have been followed to the tomb. For some years past this important and only secure foundation of their existence has been known and followed by several cos., and they may venture to anticipate therefrom more security for the future. An interesting plan, and deserving imitation, is that which the Thuringian Hail Ins. Co. estab. last year in Weimar (*Thüringischen Hagel Versicherungs Gesellschaft in Weimar*) hit upon, whereby the assu. which the members guarantee among each other is increased by a share cap. of 100,000 thalers (£14,300), which is to be available whenever the prems. and reserve fund should not be sufficient to fully discharge the losses.

Herr Masius gave in the *Versicherungs Zeitung* the position of the Hail Ins. Cos. of Germany of the two classes, at the end of this year. In the cos. of the first class (A) the prem. is paid in advance. In the second class (B) the mutual contribution plan is followed, and the prem. required to pay the losses of the year is collected at the end of each year.

TABLE A.—Position of Cos. at end of 1851.

Name of Co.	Constitution.	Sums Insured.	Prems. Received.	Total Receipts.	Losses and Contributions.	Total Expenditure.	Proportion of Loss.	Reserve Fund.
		£	£	£	£	£		£
Berlin	Proprietary.	2,709,714	unknown	unknown	10,273	unknown	Full	none
Leipzig	Mut.	1,510,408	12,561	15,931	14,981	15,931	Ditto	4,185
Erfurt	Ditto	1,655,181	18,311	19,963	16,127	19,963	Ditto	432
Weimar	Ditto (with guar. cap.)	174,357	1,421	1,625	651	1,154	Ditto	677
Berlin & Cologne	Ditto	228,950	1,617	2,050	1,702	1,702	Ditto	348
Trieste	Ditto	133,995	1,705	unknown	1,880	unknown	27'65 p.c.	none
Clausenb.	Ditto	33,413	720	720	510	510	Full	68
Boutzen	Ditto	72,880	577	1,801	1,799	1,799	Ditto	21

Note.—The last-named Asso. made an assessment for add. prems.

TABLE B.—Position of Asso. at end of 1851.

Name of Co.	Sums Insured.	Losses and Contributions.	Contribution p.c.	Reserved Fund.
	£	£		£
Hanover	714,659	5,900	·847	298
Marlenwerder	89,364	679	·733	unknown
Brandenburg	65,332	537	·822	Ditto
Neubrandenburg	1,644,430	11,493	·688	Ditto
Schwedt	117,150	15,150	1'283	Ditto

1876.—The latest statistics we have been able to obtain are for this year, and relate to 3 Cos. only. The *Preussische* (of Berlin) issued 19,013 pol.; and after paying a dividend of 17 p.c., increased its reserves by M 560,000. The *Kölnische* took M 999,870 in prems., and after paying a 15 p.c. dividend (M 270,000), added M 167,595 to its reserve. The *Vaterländische* (of Elberfeld) had an income of M 502,302, and after paying a dividend which absorbed M 80,000, increased its reserves by M 98,061. This therefore was an exceedingly favourable year for the Cos., and it may be hoped for the local Mut. Sos. also; but regarding these we have no returns available.

Health Ins. 1859.—The *Leipzig Krankencasse*, which had been founded in 1855, under the circumstances already stated under sub-heading *Friendly Soc.*, this year, on extending its operations, undertook the ins. of annu. in the event of permanent ill-health, which was then regarded as an entirely new feature; and it combined the deferred annu. plan, as here understood.

The So. proposed to ins. annu. ranging from 10 th. [$\text{£}1$ 10s.] up to 300 th. [about $\text{£}45$]. The annu. was to commence when the member either by sickness or accident—not occasioned *sud culpa*—became incapable of working; and it terminated with the incapacity, or with death. But apart from incapacity to work, the annu. would commence at a certain fixed age, originally agreed upon, and would continue during the remainder of life.

But there was another arrangement wherein the annu. might become due under either of two conditions—1. In case of *permanent* incapacity. 2. In case of *temporary* incapacity. Events and accidents causing the loss of such parts, faculties, or qualities of the human body as are necessary to every description of work to be considered as constituting permanent incapability. Serious illness for more than a month is considered as constituting temporary incapability. If the invalid member became capable of doing some other work than that which he did before he became an invalid, the directors were to fix his annu. according to the difference in the pecuniary values of the two kinds of work.

As the data referring to incapacity to work were very difficult to obtain, the premis. were to be calculated on an hypothesis of Dr. Heym's, which had previously been pub. in the *Rundschau of Ins.* According to this hypothesis the prob. of a person aged 79 years becoming invalid or incapable the next year is equal to certainty—that is, equal to 1, while this at age 20 was only equal to 0'00002; and a geometrical progression between these two extremes, 20—79, is assumed.

The data which Dr. Heym proposed to take as fundamental is shown in the following T.—but how or whence obtained is not stated:

Age.	Persons Living.	Sickness of each Person.	Prob. of becoming an Invalid next Year.	Age.	Persons Living.	Sickness of each Person.	Prob. of becoming an Invalid next Year.
		Days.				Days.	
20	6415	6'7174	0'00002	58	3838	14'3582	0'02126
21	6368	6'5798	0'00003	59	3716	15'7819	0'02554
22	6321	6'5483	0'00003	60	3588	17'1143	0'03068
23	6274	6'4765	0'00003	61	3453	18'4646	0'03686
24	6228	6'4603	0'00004	62	3315	19'5975	0'04427
25	6182	6'4540	0'00005	63	3169	21'0383	0'05318
26	6134	6'5602	0'00006	64	3017	21'9169	0'06389
27	6085	6'7281	0'00007	65	2858	22'8208	0'07675
28	6035	6'8341	0'00009	66	2692	24'1958	0'09219
29	5985	6'9088	0'00010	67	2523	25'8923	0'11075
30	5933	6'9142	0'00013	68	2351	27'3558	0'13304
31	5881	6'9648	0'00015	69	2178	29'9771	0'15981
32	5826	6'9357	0'00018	70	2003	33'2040	0'19198
33	5770	7'1287	0'00022	71	1829	36'3748	0'23062
34	5713	7'2394	0'00026	72	1651	40'2041	0'27703
35	5655	7'5675	0'00031	73	1477	43'2733	0'33279
36	5595	7'6301	0'00038	74	1308	46'2307	0'39977
37	5536	7'7378	0'00045	75	1145	49'4550	0'48022
38	5476	7'7877	0'00054	76	991	52'6963	0'57687
39	5415	7'9314	0'00065	77	849	57'0834	0'69298
40	5354	7'9522	0'00078	78	720	61'4667	0'83245
41	5292	8'2733	0'00094	79	604	65'0819	1'00000
42	5229	8'4248	0'00113	80	500	66'7644	.....
43	5163	8'5554	0'00136	81	407	73'0500	.....
44	5096	8'7333	0'00163	82	330	78'4260	.....
45	5025	8'9553	0'00196	83	262	82'2489	.....
46	4952	9'0630	0'00235	84	204	86'0696	.....
47	4877	9'4276	0'00283	85	155	89'8918	.....
48	4801	9'8492	0'00340	86	114	93'7152	.....
49	4724	10'3338	0'00408	87	82	97'5371	.....
50	4643	10'7021	0'00490	88	57	101'3585	.....
51	4560	11'2019	0'00589	89	38	105'1817	.....
52	4473	11'6348	0'00708	90	24	109'0034	.....
53	4381	11'8366	0'00850	91	15	112'8262	.....
54	4283	11'9366	0'01021	92	9	116'6487	.....
55	4180	12'3615	0'01227	93	5	120'4703	.....
56	4070	12'8136	0'01473	94	3	124'2911	.....
57	3956	13'3110	0'01770	95	1	128'1150	.....

Inland Transport.—We do not meet with any very early traces of this branch of Ins. bus. in Germany; yet it must have existed here in common with other parts of Continental Europe.

1792.—Oddy, in his *European Commerce* (pub. 1805), writing at this date, says, “The Assu. Co. was remodelled Mar. 1, 1792, and its duration fixed for a limited time. The transportation of goods on the sea and rivers form their principal object: for which they have a proper fund, in shares of 1000 rix dollars each: and these, in the year 1793, paid 6 p.c. int.”—See sub-sec. *Marine Ins.*

1844.—The *Magdeburg* Fire and Transport Ins. Co. was founded this year; and at the end of 5 years’ operations it had over 42 millions stg. of transport risks on its books.

1850.—Herr Masius estimated the amount of Sea and Land Transport Ins. in force at this date as being £100,000,000; but he furnished no means of estimating the respective proportions.

1872.—There were this year founded the following Cos. for the transaction of Inland Transport and Accident Ins. combined.

1. In Dresden the *Erste Deutsche Unfall und Transport Vers. Actien Ges.* This was a Proprietary Co. It was dissolved in 1876.

2. In Cologne the *Rhenania*, a Proprietary Co., with cap. of M 3,000,000.

1878.—The risk to Live Stock during Transport by Railways has now been made the subject of special Ins. risk.—See *Cattle Ins.*

Insurance Frauds.—We do not see many references to frauds upon Ins. Cos. in Germany; but we presume they occur here as elsewhere. The first attempt at fraud of which we find any record occurred more than a century and a half ago: and this was in the form of a sham Annu. So., having a strong mixing up of the religious element.

At Dantzig, in 1725, lived a young man whose origin and personal relations were entirely unknown. All that was known about him was that his name was Von Skirbs, and that he seemed to be well provided with the means of subsistence. His fine manners and personal appearance obtained for him admission into the most aristocratic circles of the ancient city, although they were generally difficult of access for strangers. Von Skirbs saw fit, for a time, to affect a certain degree of mystery, and to suffer it to be supposed that there was something connected with him which was not generally understood in society. In March, 1726, Von Skirbs called upon the chief burgomaster of Diesseldorf, and presented a petition, requesting that it might be laid before the grand council of the city. In this document he set forth a plan which he had devised for the relief of suffering humanity. His plan consisted in the founding of an Inst. which resembled an Ins. Co., but which was entitled *The Brotherhood of the Green Palm Branch*, in order that it might appear to be invested with the prestige of religious sanction. This curious document was in the form of a petition to the magistrates to grant a charter for the Brotherhood. It commenced as follows:

All men have yet in fresh remembrance that sundry evil-disposed persons, under colour of praise-worthy but lucrative combinations, have succeeded in the perpetration of enormous frauds. Honest men have thereby been moved unto wrath, and have visited these persons and their deceitful practices with righteous indignation. Even associations organized with honest purposes have fallen under suspicion, and it has come to be believed that in them, also, knavish designs are hidden beneath the mantle of the fear and love of God. Hence the honourable Brotherhood of the Green Palm Branch, which is founded in God’s glory and in brotherly love, has deemed itself constrained, in so far as may be, to keep its organization private, and to make and provide pains and penalties for whomsoever should betray a brother, or any one who has made application to become such.

The petition proceeds to state “that the origin of the So. was derived from no evil source, but in the love of God and our fellow-men.” The precise object of the asso. was announced to be “to aid brethren labouring under misfortune according to their rank in life, to furnish an annuity during life to every member, which should be small at first, but go on increasing every year until it became a large sum, and besides, to apply a certain sum for charitable uses (*ad pias causas*).” The funds applicable to the last-named purposes were stated to be steadily increasing, both by reason of the contributions of the members and on account of accruing interest, more than half of which was added to the principal fund of the asso.

The Brotherhood was, therefore, in substance, an inst. by means of which an income was guaranteed; only, that the amounts of the annuities guaranteed depended upon the rank or degree which a member had gained or received in the order. The petition went on to state that, for the purpose of extending the usefulness of the order as widely as possible, “persons would be accepted as members of all classes of society, who were respectable and well-behaved, but in giving degrees, no regard would be paid except to such rights as had been acquired within the association itself. The masters or burghers of the order, therefore, never gave precedence to a stranger who was noble or of higher rank, before a brother whom they had themselves enrolled.” But although contributions were received from all, without distinction of rank, strict regard was paid to the moral conduct of all who were admitted. “All criminals, blasphemers, adulterers, robbers, murderers, thieves, being accursed of God and man, are excluded, and if found to have become members will be expelled.” The terms and conditions were extremely advantageous for the insured. Applicants for admission paid one thaler, and 8 silver

groschen upon initiation, and a single prem. of 81 th., but, in lieu of the single prem., might pay two pence daily toward the principal and two pence daily as interest. The brethren ranked according to age, and according to their rank were entitled to receive the following annuities from the treasury: those of the first degree received between one and two thalers; those of the second, nearly 12 thalers; those of the third, upward of 102; those of the fourth, 923; and those of the fifth, 8315.

The whole project was so monstrous that one would suppose that any man in his five senses would see that such large sums could not possibly be paid out of such small contributions. However, such matters were not as well understood in early times as they now are.

In this particular case, however, the general council of the city of Dantzic thought that the promises held out were, upon their face, a little too magnificent, and therefore ordered that an investigation should be made in regard to the order and its members. It then appeared that the founder had succeeded in inducing a considerable number of "brethren" to enter the order, especially from the higher ranks. It is true that Von Skirbs found it prudent to take himself out of the way when the investigations were commenced. But one of the members of the order, a doctor of medicine, upon being examined, testified, that Von Skirbs had himself assumed the custody of the sums contributed by the brethren, and, moreover, upon his departure, singularly enough had taken them all with him. At the same time, the doctor stated that Von Skirbs had duly notified the order of his departure, and had announced that he would speedily return. The witness added that this announcement had not, as yet, been made good.

Since the mysterious disappearance of Von Skirbs and the funds of the association, they have never, down to this day, reappeared—and this is the way in which the Order of the Green Palm Branch found a melancholy end. For the purpose of making assurance doubly sure, the city council of Dantzic, on the 22nd of March, 1746, issued an ordinance, by which all participation in the Brotherhood was strictly prohibited.—*Vide Ins. Times*, N. Y., Sept. 1874.

Insurance Journals.—We have not the means at our command of giving a complete outline of Ins. Journalism in Germany. But the following we believe includes all the more prominent publications of this class.

1842.—There commenced to be published at Leipsic by Herr C. A. Masius, the *Allgemeine Versicherungs-Zeitung*; a publication which was continued down to 1850, and contributed much to the elucidation of the hist. of Ins. in Germany.

1850.—Herr Masius commenced to pub. in Leipsic: *Rundschau der Versicherungen; oder Sammlung von Rechnungsabschlüssen, Statuten, theoretischen und praktischen Fragen, Gesetzen, Verordnungen, Gutachten, Tarifen, und allen das Versicherungswesen berührenden Gegenständen*. This is a monthly publication.

1852.—This year there commenced to be pub. by Herr Otto Hubner: *Fahrbuch für Volkswirtschaft und Statistik*, in which is annually contained many statistics regarding the progress of each branch of Ins. bus. in Germany.

1855.—Herr Hoffmann, "Baumeister in Berlin," pub.: *Mittheilungen aus dem Gebiete des Feuer-Versicherungswesens, dessen gesammter Technik, insbesondere das Entstehens, Verhinderns und Löschens von Bränden, so wie der Feststellung von Brandschäden durch Sachverständige. Zum Gebrauch für Polizeibehörden und deren Agenten, für Baumeister und Techniker*. This was continued until 1857. 3 vols.

1859.—There commenced to be pub. in Berlin the *Deutsche Versicherungs Zeitung: Organ für des Gesammte Versicherungswesen*. It is an organ for the diffusion of information, statistical, scientific, and miscellaneous, on all subjects connected with Ins.: Life, Fire, Marine, Agricultural, etc.; and is published twice a week. The journal was founded by Herr Saski; but a few years later came under the management of Dr. Elsner, who has since conducted it.

In connexion with this journal there has also been published since 1867, *The Repertorial Ins. Almanac*.

1862.—Herr K. Malsz pub.: *Betrachtungen über einige Fragen des Versicherungs-Rechtes, insbesondere der Feuer und Lebens-Versicherung*.

1865.—There was commenced at Leipsic Saski's *Ins. Journal*.

Also Dr. F. Wallmann, Berlin, commenced the pub. of *Wallmann's Versicherungs Zeitschrift*. It is published twice a week.

1869.—Herr A. Fritsch established the *Annalen des gesammten Versicherungswesens*, which has been edited for some time by the late Dr. Kanner; it is a weekly journal.

1872.—There was estab. in Berlin the *Deutsches Vereins-Blatt für Versicherungswesen*. This purported to represent the interests of the German *Fire and Transport* Ins. Cos. generally. It is published monthly; but since 1877 it has been supplemented by a weekly edition. It was at this date announced:

The monthly periodical will still be continued, and in it the great questions relating to ins. will be dealt with through the instrumentality of scientific works, the statement and discussion of important legal distinctions, in order to further, as heretofore, the interests of ins. The weekly sheet is intended to supply an easy means of communication between the various estab. devoted to those objects, the law authorities, and the public. It will, to a certain extent, follow the changing tendencies of the time, collect the events of the week which have any bearing on ins., accompanying them with necessary

explanations, and thus to animate and make fruitful the earnest professional work of all approaching the circle of ins. officers.

1876.—Herr L. Dombrowsky pub. in Berlin a weekly journal under the name *Allgemeine Versicherungspress*.

A number of new so-called Ins. Journals were estab. about this date, and some of these sought to press themselves into prominence by means which were not at all acceptable to the managers of the German Ins. Cos. Various attempts at reconciliation were made; but finally towards the close of this year the Ins. Offices combined, and notified their intention of limiting their patronage to the *Vereins-Blatt*, estab. 1872. The subsequent course of events we have not learned.

Insurance Laws.—See LEGAL REQUIREMENTS.

Insurance Literature.—The Literature of Ins. in Germany is very voluminous. The following list will be found to contain the greater part of the works; but there are others of which it is more convenient to speak under the division or branch of the bus. of which they more particularly treat.

1596.—Leunclavius the Civilian pub. in Frankfort a Collection of the Greek and Roman Laws relating to Maritime Commerce under the title of *Jus Græco-Romanum*: and this attracted much attention throughout Europe.

1599.—Sig. Pedro Santana, a Portuguese writer, pub. in Cologne this year: *Tractatus de Assecurationibus, et Sponsionibus Mercatorum*.

1642.—Herr J. A. Schrage pub. in Strasbourg: *De Assecurationis Contractu*.

1652.—Herr (J.) F. Stypmann pub. at Gryphiswald: *Tractatus de jure maritimo et nautico, completus in lucem editus opera A. G. Fritzi*.

1674.—There was pub. in Heidelberg by Herr J. Otto: *De Contractu Assecurationis*.

Same year in Strasburg by Herr J. Schele: *De jure naufragii colligendi*.

1677.—There was pub. in Wittenburg, by H. Eugenhausen Praes. G. N. Schleenstein: *De Compendio naufragiorum*.

1680.—There was pub. at Jena by J. D. Kettler Praes. J. J. Kämpffer: *Jus appus das ist Strand- oder Grundruhr-Recht*.

1707.—Herr M. L. Schele pub. at Helmstadt: *De Instrumento Assecurationis vulgo Polizza*.

1708.—Herr Grollmann pub.: *De jure Assecurationis*. Gissae.

1724.—There was printed: König Georg von Grossbritannien, etc. *Verordnungen wegen des Strand-Rechtes*.

1725.—There was pub. in Rastock and Parchim by Herr J. A. Crohn: *Tractatus de jure Assecurationum: vom Assecuranz-Recht*.

1727.—Herr H. Langenbeck pub. in Hamburg: *Anmerkungen über das hamburgische Schiff- und See-Recht, wie solches in den 13-19 Titulen des andern Theils Stadt-Buchs enthalten, und die dahin gehörige Recht der Admirallät, Assecurance, Avarie, Dispathe, Pilotage, des Schiffs-Baues, der Strand- und Bergung, Düpe und Haven, wie auch der grönländischen Fahrt nach dieser Stadt, wie auch allgemeinen und verschiedner Nationen uhralten, alten und jüngern See-Rechten, zum Nutz und besten des Publici, nebst nöthigen Beilagen*. (See 1740.)

1736.—Another ed. of M. L. Schele's work of 1707 was pub. in Leipzig this year: Accedunt: 1. *Instrumenta assecurationis germanica*; 2. H. v. d. *Hardt de germana Polizae origine, epistola*. 3. *M. Richey in eam animadversiones*.

1739.—There was pub. in Bremen by Herr M. Meyer: *De Assecurationibus Mercatorum Tractatus*.

1740.—Heineccius, the Civilian, pub. in Magdeburg: *Scriptorum de jure Nautico et Maritimo Fasciculus*. He was also the author of or contributed to other works bearing upon Maritime Law.

Same year, Herr H. Langenbeck pub. in Hamburg: *Anmerkungen über das hamburgische Schiff- und See-Recht, wie solches in den 13-19 Titulen des andern Theils, Stadt-Buchs enthalten, und die dahin gehörige Rechte der Admirallät, Assecurance, Avarie, Dispathe, Pilotage, des Schiffs-Baues, der Strand- und Bergung, Düpe und Haven wie auch der grönländischen Fahrt. Nach dieser Stadt, wie auch allgemeinen und verschiedner Nationen uhralten, alten und jüngern See-Rechten. In dieser 2. Aufl. m. vielen Zusätzen und Verbesserungen aus des Verf. eigenen Handschriften, samt praemittirten Summarien und beigefügter hamb. neuen Assecuranz-Ordnung vermehrt*. (See 1727.)

1742.—Herr Johann Peter Sussmilch pub. in Berlin: *Die Gottliche Ordnung in den Veränderung des menschlichen Geschlechts aus der Gebert, dem Tode und der*. See sub-headings *Mort. T.*, and *V. Statis.*, sub-sect. *Pop*.

1743.—There was pub. at Halle by H. Rhode Praes. J. S. F. Boehmer: *De servatio quod vulgo Berge-Lohn vocant*.

1750.—Herr D. Tidemann pub. in Gottingen: *De rescissione contractus Vitalitii*.

Same year there was pub. by Herr J. Schubach at Gottingen: *De jure litoris*; vom Strand-Rechte.

1751.—By the same, in Hamburg: *Commentarius de jure litoris*. Vom Strandrechte.

1753.—There was pub. in Hamburg by Nicholas Magens: *Versuch über Assecurancem, Havereien und Bodmereien insgemein; und über verschiedene hiebeigefügte Wirkliche*

Vorfälle und deren Berechnungen insbesondere, nebst einer Sammlung der vornehmsten alten und neuen Verordnungen. V. einem Kaufmanne in London. This work was pub. in London in 1755 (in English) simply as *An Essay on Insurances*.

1762.—There was pub. by Herr J. C. H. Dreyer: *Specimen juris publici lubecensis quo pacta conventa et privilegia, quibus Lubecae per omnes propemodum Europam circa inhumanum jus naufragii est prospectum, ex authenticis recens., jus maritimum lubecense al Alberto de Bardewic compositum a. 1299 ex membranis edit. etc. Buecovii et Wismariae*.

1765.—Herr J. H. Lambert pub. in Berlin: *Beiträge zum Gebrauche der Mathematik und deren Anwendung*—3rd vol. 1772. In this work was contained his contributions to the science of Life Contingencies as already set forth under sub-sect. *Life Contingencies*; and *Mort. T.* in this art.

1766.—There was pub. in Berlin: *Assecuranz- und Haverie-Ordnung vor sämtliche k. preussische Staaten*. Berlin, der 18 Februar, 1766. fo.

1767-8.—Herr Kritter printed in Gottingen and Hamburg during these years 3 tracts on the subject of Widows Funds.

1771.—There was published in Königsberg: *Das Recht der Assecuranzen und Bodmereien, systematisch abgehandelt und m. einer Sammlung der neuesten zu diesen Materien und denen Haverien gehörigen Verordnungen nebst denen Reglements die Feuer-Societäten im Königreich Preussen betreffend*.

1772.—Herr C. D. Küster pub. in Leipzig: *Der Wittwen und Waisenversorger oder Grundsätze, nach welchen dauerhafte Wittwen- und Waisensocietäten, auch Sterbecassen gestiftet und verbessert werden können*.

1775.—There was pub. in Hamburg, by L.A.G.S.: *Ueber den Nutzen und die Möglichkeit ausstehende Capitale und andere Forderungen durch eine Gattung v. Assecuranz sicher zu stellen. Als ein Mittel zur Beförderung der Industrie, des Handels und der Manufacturen*.

1778.—There was pub. in Copenhagen: *Zuverlässiger Bericht v. der bie Anlegung der neuen allgemeinen Wittwencasse für die k. dänische Staaten angenommenen Theorie und gebrauchten Rechnungsart. Aus d. dänischen manuser*.

1781.—Herr Carl Chassot de Flourencourt pub. at Altenburg: *Abhandlungen aus der juristischen und politischen Rechenkunst. Nebst einer Vorrede von Kästner*. See sub-sect. *Life Contingencies*.

1782.—There was pub. in Lubeck, by Herr J. A. Engelbrecht: *Die Assecuranzwissenschaft, systematisch bearbeitet, nebst einer Sammlung alter und neuer Seerechte und Verordnungen*. This, we believe, was but a trans. of Weskett's work on Ins. pub. 1781.

1784.—Herr Karstens pub. in Halle: *Theorie der Wittwencassen*, wherein the subject of Widows Funds was treated in a scientific manner.

1785.—Herr John Nicholas Tetens, Professor of Philosophy and Mathematics at Kiel, pub. at Leipzig: *Einleitung zur Berechnung der Leibrenten und Anwartschaften die vom Leben und Tode einer oder mehrerer Personen abhängen mit Tabellen zum practischen Gebrauch*, viz. "Introduction to the Computation of Life Annu. and Reversions which depend on the life or death of one or more persons, with Tables for practical use."

1788.—There was pub. in Göttingen by Herr J. Dehn: *Commentatio Juridica de Assecuratione Maritima*.

1790.—Herr J. P. Sieveking pub. in Göttingen: *De Assecuratione Maritima nomine alterius Contracta*.

1791.—Herr J. P. Sieveking pub. in Göttingen: *Von der Assecuranz für Rechnung eines ungenannten Versicherten*.

1795.—There was pub. in Hamburg by J. G. Büsch: *Allgemeine Uebersicht des Assecuranzwesens, als Grundlage zu einer unbefangenen Beurtheilung v. G. E. Bieber's Plan zur Errichtung einer für Hamburg möglichst vortheilhaften Versicherungs-Compagnie gegen Feuers-Gefahr*.

Same year, Herr G. F. von Martens, Prof. of Public Law at Göttingen, pub. in that city: *Versuch über Caper, feindliche Nehmungen und insonderheit Wiederruchungen. Nach den Gesetzen Verträgen und Gebräuchen der europäischen Seemächte*.

He pub. many other works, all in the French language. [MARTENS, G. F. VON.]

1796.—Herr J. M. Hasse pub. in Göttingen: *De Indole atque Effectibus Instrumenti Assecurationis quod vulgo Poliziam vocant, praesertim ex jure hamburgensi spectati*.

Same year Dr. C. W. Hufeland pub. in Jena his famous treatise *Macrobiotik*—"The art of prolonging life."

1798.—There was pub. in Hamburg by Herr J. G. Büsch: *Darstellung des in den nördlichen Gewässern üblichen, insonderheit des Schleswig-holsteinischen Strandrechts*.

1803.—Dr. Gildemeister, Jurist, pub. in Bremen: *Dissertatio Situe aliquod Fueritve Jus Maritimum Universale*.

1805.—There was pub. in Hamburg by Herr W. Benecke: *System des Assecuranz- und Bodmereiwesens aus den Gesetzen und Gebräuchen Hamburgs und der vorzüglichsten handelnden Nationen Europas, so wie aus der Natur des Gegenstandes entwickelt. Für Versicherer, Kaufleute und Rechtsgelehrte*. This famous work was published in English in 1824. (See 1851.)

1815.—Herr F. J. Jacobsen pub. in Altona: *Seerecht des Friedens und des Krieges in*

Bezug auf die Kauffahrteisschiffahrt. A trans. of this work was made in Baltimore in 1818—*Laws of the Sea*, etc., by W. Frick. (See 1821.)

1817.—There was pub. in Göttingen by Herr C. D. Klügman: *De lege Rhodia de iactu*.

1821.—There was pub. at Altona by Herr F. J. Jacobsen: *Ueber Contracte in Betreff von Berglohn, auf Veranlassung der Selbstentleibung des Capitains R. Schaldon vor der Insel Helgoland.* (See 1815.)

Same year there was pub. in Leipzig: *Beurtheilung der Vorzüglichsten in Deutschland gebräuchlichen Arten der Versicherung gegen Feuersgefahr.*

1823.—Herr J. H. Meyer pub. in Copenhagen: *Allgemeine Anleitung zur Berechnung der Leibrenten und Antwortschaften.* 2 vols.

1825.—There was pub. in Stettin: *Auszug aus dem Allgemeinen preussischen Landrechte, dritten Bandes xii. und xiii. Abschn., über Havarie, Seeschäden und Versicherungen.*

1827.—Herr Hofacker pub. in Tübingen: *De qualitibus Parentum in Sobolem prodeuntibus, præsertim rei equariæ. Dissertatio inauguralis med. auct.;* of the contents of which we have already given some account under BIRTHS.

1829.—There was pub. in Hamburg: *Versuch über Haverien und Assecuranz-Gegenstände, enthaltend eine Darstellung des neuern Englischen Rechts und der Praxis in Assecuranz- und Havarie-Sachen* v. F. C. Schumacher. This was an ed. of Stevens on *Average*, first pub. in Eng. in 1822.

Same year Herr Steltzner pub. in Hanover: *Wünche und Vorschläge gerichtet auf die Begründung v. Versicherungs-Anstalten in Königreiche Hannover in Verbindung m. den benachbarten kleinern Staaten, gegen Hagelschlagsschaden und gegen die Feuersgefahr beweglicher Sachen.*

1830.—Herr F. H.—ff pub. in Brunswick: *Die Lebensversicherungsbank für Deutschland in Gotha und die Lebensversicherungs-Gesellschaft zu Leipzig neben einander gestellt*, etc.

1832.—In Vienna, by Prof. Littrow: *Ueber Lebensversicherungen und andere Versorgungsanstalten*

1834.—There was pub. in München, by Herr A. M. Anselm: *Wahrheit über die Gothaer Bank.*

Same year there was pub. in Heidelberg, by Herr L. H. Fischer: *Unparteiische Beurtheilung der Verfassung und Verwaltung der gothaischen Feuer-versicherungsbank.*

And same year in Aachen, by Herr D. Hausemann: *Gutachten über die Gesetzgebung im Feuer-Versicherungs-Wesen.* Als MS.

Also, in the same year, Herr H. C. Ohlytz pub.: *Das Wesen und Unwesen aller in Deutschland einheimischen und eingebürgerten Versicherungs-Gesellschaften*, 1 Heft.

And in Gotha: *Darstellung des Wesens und Wirkens der Feuerversicherungs-Bank für Deutschland, von dem Vorstande der Bank.*

1836.—There was pub. in Berlin: *Reglement berliner allgemeinen Wittwen-Pensions- und Unterstützungs-kasse.*

1837.—Herr J. G. Hoffmann pub. in Berlin: *Einleitung zu neuen Untersuchungen über die wahrscheinliche Dauer des menschlichen Lebens.*

Same year, Herr R. J. G. C. de Nerée pub. in Arnheim: *Disp. de contractu reddituum vitalitiorum ex jure novissimo.*

1838.—Herr J. C. B. Langhenie pub. in Hamburg: *Die Vorzüge und Eigenthümlichkeiten der allgemeinen Versorgungs-Anstalten in Deutschland; in besonderer Beziehung auf die hamburgische Versorgungs-Anstalt und die hamburgische Tontine. Nebst einem Anhang über Mortalität und Lebensdauer. Erläutert durch Zusammenstellung v. 20 Mortalitäts-Tabellen.*

Same year, there was pub. in Berlin: *Statuten der preussischen Renten-Versicherungs-Anstalt in Berlin.*

And in Stuttgart by S. E. K.: *Was gewährt die Stuttgarter allgemeine Rentenanstalt ihren Theilnehmern? Unparteiisch untersucht.*

Also in Stuttgart: *Ueber die württembergische allgemeine Privat-Wittwen- und Waisen-Pensionanstalt; ihren neuesten Tarif und das Ergebniss der letzten Abstimmung.*

1839.—There was pub. at Weimar: *Die Theorie der Lebensrenten, Lebensversicherungen, Wittwencassen und anderer ähnlichen Anstalten, nebst Tabellen. Deutsch (n d. Franz) bearbeitet u. m. den nöthigen Anmerkungen und Ergänzungen versehen* v. C. H. Schnuse. This is a trans. of Mr. Francis Bailey's *Treatise on Annuities*, etc.

Same year, there was pub. in Stuttgart by S. E. K.: *Ueber das Steigen der Rente in der preussischen Rentenversicherungsanstalt und in der stuttgarter allgemeinen Rentenanstalt.*

Same year, Herr F. A. Brüggemann pub. in Berlin: *Die Mobiliar-Versicherung in Preussen nach dem Gesetze vom 8 Mai 1837 unter Benutzung amtlicher Quellen.*

And Herr L. Moser pub. in Berlin: *Die Gesetze der Lebensdauer. Nebst Untersuchungen über Dauer, Fruchtbarkeit der Ehen, etc., und einem Anhang, enthaltend die Berechnung der Leibrenten, Lebensversicherungen, Wittwenpensionen und Tontinen. Ein Lehrbuch. M. 2 Steindrucktafeln.*

1840.—Herr D. H. L. Bening pub. in Hanover: *Die Sparkassen und Sterbekassen im Königreiche Hannover.*

Same year, Herr (J.) L. (U) Blesson pub. in Berlin, Posen, and Bromberg: *Die Renten-Versicherungs-Anstalten und deren Bedeutung für Mit- und Nachwelt.*

And there was pub. in Bremen: *Das französische Seerecht. Frei übersetzt nach der 4. Aufl. v. Pardessus, cours de droit commercial, u. m. Noten begleitet v. A. Schiebe.*

In 1840 also Herr T. Rüffer pub. in Leipzig: *Widerlegung der v. C. Kröncke gegen die Renten-Anstalten herausgegeben Schrift.*

And Herr J. J. Salmon pub. in Vienna: *Ueber Lebens-Versicherungs-Anstalten überhaupt und die allgemeine wechselseitige Capitalien- und Renten-Versicherungs-Anstalt insbesondere.*

Same year, there was pub. in Darmstadt: *Ueber Rentenanstalten.*

1841.—Herr C. G. Schmalz pub. in Dresden: *Ueber Wittwenkassen und Lebensversicherungen. Practische und gründliche Darstellung der Grundsätze und Erfahrungen, nach welchen solche Versorgungsanstalten einzurichten und zu prüfen sind.*

Same year there was pub. in Hamburg: *Ueber Geburts-Gesellschaften, oder: wie man die junge Bevölkerung in Geburts-Gruppen eintheilen, ihr Einkünfte in ihrem Alter und ihren Nachkommen Erbschaften sichern kann.*

1842.—Herr T. Rüffer pub. in Rudolstadt: *Nachweis, das die preussische Renten-anstalt zu Berlin nicht nur die Zinsen, sondern auch das gesammte Einlagenkapital jeder Jahresgesellschaft an die Theilnehmer derselben. Zurückzahlt, und Beleuchtung derjenigen statutenmässigen Bestimmungen der sächsischen Rentenanstalt welche v. denen der preussischen abweichen.*

Same year there was pub. in Erfurt by Herr E. S. Unger: *Die Feuerversicherungsbank für Deutschland in Gotha und die bei derselben Betheiligten. Auf Veranlassung der Ereignisse vom 5 bis 8 May d. J. ihren Verhältnissen und ihrem Wesen nach ausführlich erläutert.* (See 1844.)

In Leipzig: *Statut der auf Gegenseitigkeit gegründeten und unterm 23 März 1839 concessionirten Mobiliar-Brand-Versicherungsbank für Deutschland.*

And in Göttingen, by Herr Heinroth: *Die Schattenseite der Feuer-Versicherungsbank in Gotha. Eine Schrift durch die Brochure des Hrn. D. Unger: "die Feuer-Versicherungsbank f. D. in G." Veranlasst. Nebst einem Anhang.*

Also in 1842 Herr J. F. Becker pub. in Berlin: *Ueber Gewinn und Verlust bei Renten-Anstalten.*

Same year, Herr F. v. Holst pub. in Berlin: *Die Verwaltung der preussischen Renten-Versicherungs-Anstalt.*

Same year, Herr P. A. O. v. Karozewski pub. in Berlin, Posen, and Bromberg: *Die Renten, insbesondere die preussische Renten-Versicherungs-Anstalt.*

There were also pub. in Copenhagen the same year: *Plan der Lebensversicherungsanstalt in Kopenhagen errichtet 1842. M. einem Auszuge aus den Tabellen.*

And this: *Plan der Leibrenten- und Versorgungs-Anstalt v. 1842, errichtet in Kopenhagen. M. einem Auszuge aus den Tabellen.*

1843.—Herr H. C. Harder pub. in Hamburg: *Ueber den Einfluss der Lebensversicherungs-Anstalten auf Familien- und National Wohlfahrt.*

Same year there was pub. in Stuttgart: *Die allgemeine Rentenanstalt in Stuttgart — vor den Schranken der Gerichte.*

And in Rinteln, by Herr A. W. Wüstenfeld: *Nachweis, dass die F. V. Bank f. D. in Gotha auf durchaus ungerechten Grundsätzen beruhet und ihrer Auflösung entgegensehen kann, sofern deren wesentlichste Verfassungspunkte nicht abgeändert werden, nebst Vorschlägen u. s. w.*

1844.—The following works were published: 1. In Berlin, by Herr J. F. Becker: *Ueber eine Zweckmässige Einrichtung der Renten-Anstalten.*

2. In München, by Herr H. C. Brunner: *Ueber Pensions-, Renten-, und Lebensversicherungs-Anstalten für Wittwen und Waisen, nebst Anhang, enthaltend: einen Versuch, eine allgemeine solche Anstalt auf ganz feste, für alle Wechselfälle Garantie bietende, Berechnungen zu bauen.*

3. In München, by Herr D. A. Gebhard: *Ueber Wittwen- und Waisen-Pensions-Anstalten, nebst Bemerkungen über Lebens-Versicherungs-Anstalten.*

4. In Darmstadt, by Herr J. J. Rau: *Beitrag zur näheren Kenntniss der Rentenanstalten in Allgemeinen, insbesondere der allgemeinen Rentenanstalt zu Darmstadt. M. den Statuten dieser Anstalt nebst speciellen Erläuterungen.*

5. In Darmstadt, same year: *Statuten der Allgemeinen Renten-Anstalt in Darmstadt. M. allerhöchster Genehmigung u. Bestätigung.*

6. In Hamburg, by Herr J. T. H. Rosenberg: *Erläuterung, Geld-, Wechsel- und Staatspapierberechnungen, Leibrenten, etc.; als commentar zu der "Kaufmännischen Arithmetik."*

7. In Erfurt, by Herr E. S. Unger: *Die Grundsätze des gesammten Versicherungswesens und ihre Anwendung zur Beleuchtung der in der neuesten Zeit in Beziehung auf die Feuerversicherungsbank für Deutschland in Gotha in Anregung gebrachten Fragen.*

8. In Rinteln, by Herr A. W. Wüstenfeld: *Fortgesetzter Beweis, dass die F. V. Bank f. D. in Gotha auf durchaus ungerechten Grundsätzen beruhet, nebst einer Vollständigen Widerlegung des Hrn. Dr. Unger.*

9. In Stettin: *Entwurf zu den Statuten für die preussische National-Versicherungs-Bank.*

1845.—There were pub. the following works: 1. In Magdeburg, by Herr A. F. L.

Anwandter: *Die Feuer-Versicherungs-Anstalt Borussia, ihr Entstehen, Bestehen und Vergehen; auch Belehrung für deren Verwaltung und Fingerzeige für die Actionaire.*

2. In Weimar, by Herr C. F. Stapf: *Gegen die Rentenanstalten, oder Beweis, dass dieselben m. alleiniger Ausnahme der sächsischen in Dresden weiter nichts als blosse Lotterien und für die Betheiligten weit ungünstiger, ja für das allgemeine Wohl weit nachtheiliger als diese sind.*

3. In Erfurt, by Herr E. S. Unger: *Nähere Begründung des Verfahrens, welches die auf Gegenseitigkeit beruhenden Feuer-Versicherungs-Anstalten bei der Berechnung m. ihren Interessenten an befolgen haben. Zur Berichtigung der irrigen Ansichten, die in Folge des Mangels an Sachkenntniss über diesen Gegenstand verbreitet werden.*

4. In Hanover, by Herr A. W. Wüstenfeld: *Die Mängel der Feuer-Versicherungs-Bank für Deutschland in Gotha, bei der m. dem Jahre 1845 ins Leben getretenen Veränderung ihrer Verfassung vor wie nach fortbestehend.*

1846.—There were pub. the following: 1. In Berlin, by Herr A. F. L. Anwandter: *Die Feuer-Versicherungs-Anstalt Borussia m. ihrem zweiten Rechnungs-Abschlusse u. dem geschmälerten Grund-Garantie-Capital, als m. keinen 2 millionen, aber m. täuschenden Documenten.*

2. In Leipzig, by Herr J. G. Blumschein: *Die Begräbniss-Kassen. Anleitung zu ihrer zweckmässigen Verfassung und Verwaltung, nebst einer Uebersicht ihrer Vorzüge gegen Lebens-Versicherungs-, Renten- und Sparkassen-Anstalten.*

3. In Jever, by Herr Dierks: *Prüfung der im Herzothum Oldenburg errichteten Wittwen- und Waisen-Cassen.*

4. In Potsdam, by "Januarius": *Feuer! Feuer! Warnung an Hypothek-Gläubiger, so wie an alle bei Privat-Feuer-Versicherungs-Anstalten Versicherten.*

5. In Leipzig, by Herr E. A. Masius: *Lehre der Versicherung und Statistische Nachweisung aller Versicherungs-Anstalten in Deutschland; nebst Hinweisung auf den hohen Einfluss dieser Institute auf Nationalwohlstand, und die Gesetze darüber in den Verschiedenen Staaten.*

6. In Altona, by same author: *Eines hamburgischen Veteranen offener Brief an E. A. Masius über Mobiliar-Brand-Versicherungs-Anstalten in Deutschland. Zur Beherzigung für Versicherte und Versicherer, besonders für Actionare.*

7. In Merseburg, by Herr Seffner: *Die Sparkassen des Regierungsbezirks Merseburg nach Doktrin, Gesetzgebung und praktischer Gestaltung m. einigen Vorbemerkungen über Begriff und Nutzen solcher Anstalten im Allgemeinen und einzelnen vergleichenden Nachrichten.*

8. In Gotha: *Verfassung der Lebensversicherungsbank für Deutschland. Der neuen Redaktion.*

9. In Hanover, by Herr A. Tellkamp: *Die Verhältnisse der Bevölkerung und der Lebensdauer im Königreich Hannover. Ein Beitrag zur Statistik Deutschlands. M. 5 lithogr. Tafeln.*

10. In Hanover: *Strandungsordnung für das Königreich Hannover vom 24 Juni 1846. Also Gesetz-Sammlung für das Königreich Hannover Jahrg. 1846.*

1847.—There was pub. in Leipzig, by Herr E. A. Masius: *Handbuch für Versicherungs-Agenten oder solche, Welche es erst werden wollen, nebst einer Anleitung zu einer zweckmässigen vereinfachten doppelten Buchhaltung.*

Also same year in Altona, by same author: *Eines Hamburgischen Veteranen zweiter offener Brief an E. A. Masius. Zur Abwehr ungerechter Beschuldigungen. Für Versicherer, Versicherte besonders für die Actionaire von Mobiliar-Brandversicherungs-Anstalten.*

And in Leipzig, by Herr C. Hey: *Errichtung einer National-Lebens-Versicherung verbunden m. einer Nationalbank. Ein Antrag an das deutsche Volk.*

1848.—There was pub. in Weimar: *Allgemeiner Prospectus für das gesammte Sparkassen- und Versicherungswesen, insbesondere Zweck, Einrichtung und Benutzung aller in Deutschland bestehenden Lebensversicherungs- und Versorgungs-Anstalten.*

1850.—Herr M. Müttzell pub. in Stolpe: *Das Rentenbank-Gesetz vom 2 März 1850 aus den Motiven erläutert.*

Same year, Herr J. B. Osterbind pub. in Oldenburg: *Beiträge zu der Kenntniss und zu der Beurtheilung des Zustandes der Oldenburgischen Wittwenkasse.*

And Herr J. M. Romig pub. in Augsburg: *Einige Worte über Wittwen- und Waisen-Verpflegungsanstalten nebst Einzahlungstabellen für Wittwenkassen, nach der Brune'schen Mortalitätstafel berechnet.*

Same year there was pub. in Berlin: *Ueber zweckmässige Einrichtung der Sparkassen.*

1851.—Herr A. Wiegand pub. in Halle: *Die Vortheile und Garantien der Lebens-Versicherung. M. besonderer Rücksicht auf die Lebens- und Pensions-Versicherungs-Gesellschaft Janus in Hamburg.*

Same year there was pub. in Hamburg: *System des See-Assekuranz- und Bodmerei-Wesens. Vollständig und zeitgemäss umgearbeitet v. V. Nolte.* This was a new ed. of Benecke's work, pub. 1805.

1852.—Herr R. F. Rademacher pub. in Hamburg: *Beleuchtung der allgemeinen Lebensversicherungsbank für das Königreich Hannover, 2 Aß.*

1853.—Otto Hubner pub. in Leipzig: *Jahrbuch für Volkswirtschaft und Statistik*, which contained many interesting facts bearing upon V. Statis. It was continued several years. He has pub. various other works on V. Statis.

Same year Herr R. F. Rademacher pub. in Hamburg: *Nachlese zur Beleuchtung der allgemeinen Lebensversicherungs-Anstalt für das Königreich Hannover*.

1854.—Herr R. A. Jahn pub. in Bielefeld: *Die Kinder-Versorgungs-Kassen der kölnischen Lebens-Versicherungs-Gesellschaft Concordia*.

Same year, Herr P. F. Keil pub. in Jena: *Das Interusurium oder die richtige Bestimmung der Forderungswerthe und Rentenreductionslehre*.

And Herr A. Wiegand pub. in Halle: *Statuten-Entwurf nebst Tarif für Innungs-Krankenkassen*.

1855.—Herr G. Hopf pub. in Leipzig: *Die wesentlichsten Ergebnisse der gothaer Lebens-Versicherungsbank in dem ersten Vierteljahrhundert ihres Bestehens, besonders in Beziehung auf die Sterblichkeit des Versicherten. Ein Beitrag zu Otto Hübner's Jahrbuch für Volkswirtschaft und Statistik. 4. Jahrg.*

Herr R. A. Jahn pub. at Bielefeld: *Die Lebens-Versicherung bei der kölnischen Lebens-Versicherungs-Gesellschaft Concordia*.

Herr M. M. v. Weber pub. in Leipzig: *Die Lebens-Versicherung der Eisenbahn-Passagiere in Verbindung mit der Unterstützung und Pensionirung der Eisenbahn-Beamten und ihrer Angehörigen*.

Same year there was pub.: *Prämien der deutschen Lebens-Versicherungs-Anstalten für eine lebens längliche Versicherung von 100 Thlrn.—Die Geschäfts-Ergebnisse und der Zustand der Lebens-Versicherungs-Anstalten Deutschlands in Jahre 1855.* (Eine Tabellarische Uebersicht.)

1856.—Herr A. Wiegand pub. at Halle: *Lebensversicherungs-Katechismus.—Gespräch aus dem Leben*.

Herr M. Wittelshöfer pub. in Berlin: *Plan einer Deutschen Credit-Versicherungsgesellschaft*.

Same year was pub. in Leipzig: *Zwiesgespräche über Rentenversicherungs-Anstalten und insbesondere über die sächsische*.

1857.—Herr M. Oberländer pub. in Leipzig: *Die Feuer-Versicherungs-Anstalten vor der Stände-Versammlung des Königreichs Sachsen. Ein Beitrag zur Feuer-Versicherungs-Gesetzgebung in ihrer volkswirtschaftlichen Bedeutung.* [See Fürs Ins. this date.]

Herr C. Rädell pub. in Berlin: *Vollständige Anweisung die Lebensfähigkeit von Versicherungs-Anstalten in Bezug auf das menschliche Leben und Sterben zu untersuchen —Im Auftrage des Central-Vereins für das Wohl der arbeitenden Klassen allgemein verständlich vorgetragen.*

Herr L. Rückert pub. in Erlangen: *Der Leibrenten Vertrag—Eine civilistische Abhandlung*.

1858.—Herr E. Kühnert pub. in Göttingen: *Wie sorgst Du für Deine und der Deinen Zukunft? oder: Die richtige Benutzung der Lebens-Versicherungs-Anstalten*.

Herr C. W. A. Neumann pub. at Königsberg: *Eine kurze Erklärung des Ursprungs und der Bedeutung, etc.*

Herr C. Riepen pub. at Kiel: *Eine Alterversorgungs-Kasse für Jedermann*.

Herr J. Standinger pub. in Erlangen: *Die Rechtslehre vom Lebens-Versicherungsvertrag*.

And Herr A. Wiegand pub. at Halle: *Die Lebens-Versicherungs-Praxis—I. Wesen und Bedeutsamkeit der Lebens-Versicherung. II. Anleitung zur planmässigen Betreibung des Agenturgeschäfts—2. theilweise umgearb. Afl. 1. T.*

1859.—Herr C. Bremiker pub. in Berlin: *Das Risiko bei Lebensversicherungen*.

Herr Karl Hattendorff pub. in Hanover: *Leibrenten und Lebens-Versicherungen von David Jones, deutsch bearbeitet und mit tabellen versehen.* This is a very good trans. of that part of Mr. David Jones's work relating to Life Contingencies.

Herr C. Rädell pub. in Berlin: *Die Vielfachen der Aufzinsungs- und Abzinsungs-Faktoren—Tabellen zum zuverlässigern und schnellern Rechnen nach Zinseszinsen, für Sterbekassen, Wittwenkassen, Lebensversicherungs-Anstalten, Renten Institute u. s. w. (ohne Rechnungs- und Druckfehler).*

Herr J. T. H. Rosenberg pub. in Hamburg: *Beitrag zur Berechnung der Zinsen, Zinseszinsen, Staatspapiercourse, Lotterie-Anleihen, der Leibrenten, Lebensversicherungen, für Kaufleute, Financiers*.

Herr A. Wiegand pub. in Halle: *Sind gegenwartig die Staats-Pensions- und Wittwen-Kassen noch zeugemäss?—Eine Denkschrift für Staats-Behorden und Staats-Beamte*.

The same author also pub.: *Mathematische Grundlagen für Eisenbahn-Pensionkassen. Für die Eisenbahn-Gesellschaften behufs Reorganisirung ihrer Kassen bearbeitet*.

There was also this year pub. in Hanover: *Leibrenten und Lebens-Versicherungen. Deutsch bearbeitet und m. Tabellen versehen v. C. Hattendorff.* This is a trans. of David Jones on Annuities, etc.

1860.—Herr P. Fischer pub. in Oppenheim: *Grundzüge des auf menschliche Sterblichkeit gegründeten Versicherungs-Wesens—1 Abthlg. Bestimmung der menschlichen Sterblichkeit*.

Herr L. Jung pub. in Berlin : *Ueber rechtliche Natur und zweckmässige Benutzung der preussischen Renten-Versicherungs-Anstalt in Berlin 3 Ausg.*

And Herr A. Zillmer pub. in Berlin : *Die mathematischen Rechnungen bei Lebens- und Renten-Versicherungs, systematisch entwickelt.*

1861.—There was pub. in Düsseldorf, by Herr W. Lazarus : *Ueber das See-Versicherungsrecht auf Grundlage des Allgemeinen Deutschen Handelsgesetzbuches.* (See 1862 and 1874.)

In Berlin by Herr F. Martens : *Fliegende Blätter für die geheimen Praktiken der Aachener und Münchener Feuer-Versicherungs-Gesellschaft.* No. 1.

1862.—Herr C. Langheinrich pub. in Leipzig : *Ueber den Werth der Lebens-Versicherungs-Police—Zum Gebrauch für Versicherte, Police-Inhaber, Lebens-Versicherungs-Beamte und Agenten, sowie für alle, welche sich für das Lebens-Versicherungswesen interessieren.*

Herr W. Lazarus pub. in Hamburg : *Bedenken gegen den Entwurf der hamburgischen Seeversicherungs-Police.* (See 1861 and 1874.)

Herr J. G. Molitor pub. in Lahr : *Die Sterbe-Kassen. Anleitung, alle sie betreffenden Fragen ohne besondere mathematische Kenntnisse beantwortet zu können, besonders für Mitglieder Pestalozzi-Vereine ausgearbeitet.*

Herr H. Tecklenborg pub. in Bremen : *System des See-versicherungswesens, nach der Natur der Sache, so wie nach den Bremer und Hamburger, Assekuranz-Bedingungen, dem Deutschen, Handelsgesetzbuch, und den vornehmsten Ausländischen Gesetzen.*

And Herr A. Wild pub. in München : *Die Leibrenten-, Lebensversicherungs und Renten-Anstalten—Eine theoretische und praktische Anleitung zu allen hierin vorkommenden Berechnungen nebst Vorschlägen zur Neugestaltung der Renten-Gesellschaften.*

1863.—Herr G. Hopf, late Man. of the Gotha Life Assu. Bank, pub. in that town : *Ergebnisse der Lebensversicherungsbank für Deutschland in Gotha während der ersten vier und dreissig jahre ihres bestehens von 1829 bis 1862, zusammengestellt, und mit nachweisen über die Sterblichkeit unter den versicherten versehen.* This is an historical and statistical account of the rise, progress, and then condition of the Asso., of which we have already given an outline.

1864.—Herr Julius Lachmund pub. in Berlin vol. i. of *Das Risiko bei Lebensversicherung.* [RISK, THEORY OF.]

1864-5.—In Berlin, by Dr. Elsner : *Archiv für das Versicherungswesen*, 2 vols. This work contains information relative to the Laws and Regulations of Ins. Cos., and an epitome of the variations of the same in the several German States. (See 1867.)

1865.—Dr. Theodore Wittstein, Act. of Hanover Life, read before the Mathematico-Physical Section of the 40th Natural Philosophy Congress, held at Hanover this year, a paper : *On Mathematical Statistics, and its Application to Political Economy and Ins.* A translation of this paper is given in *Assu. Mag.* vol. xvii. p. 178.

1867.—Several important works on Life Ins. were pub. this year. They will be more particularly referred to under sub-heading *Life Ins.*

1868.—Two works, each of which attracted considerable attention, appeared this year, viz. :

1.—At Leipzig, by Dr. A. F. Knapp : *Ermittlung der Sterblichkeit.*

2.—At Brunswick, by Dr. Hermann Scheffler : *Sterblichkeit und Versicherungswesen.*

For more particular mention of each of these, see sub-heading *Mort. T.*

There also commenced to be pub. by Dr. Elsner, in Berlin, the *Repertorischer Assecuranz-Almanach: Handbuch für den Assecuranz- und handelsstand und für juristen*; which has continued annually since.

1870.—Herr C. F. Reatz pub. at Leipzig : *Geschichte des Europäischen Seeversicherungswesens.*

1874.—Herr W. Lazarus pub. in Hamburg : *Die Grundlagen für die Bilanzen der Pensions-Casse für die Wittwen und Waisen der Angestellten Hamburgischen Staats.* (See 1861 and 1862.)

1875.—Dr. Max Hirsch pub. in Berlin : *Die gegenseitigen Hilfskassen und die Gesetzgebung.* [See sub-heading *Friendly Sos.*, this date.]

In Leipzig, by Dr. Enninghaus, jun. (Manager of Gotha Life) : *Die Behandlung des Selbstmordes in der Lebensversicherung.*

1877.—Dr. A. F. Elsner pub. in Berlin : *Allgemeine Brandursachen: Handbuch für den Assecuranzstand zu Fire Protection.*

Note.—In addition to the preceding there are works almost innumerable treating more or less incidentally of the arithmetic of Annuities and Life Ins.; while there are many works bearing upon local inst. only. Some of these latter will be spoken of under HAMBURG; some under SEA-LAWS.

Legal Requirements.—There exists no General Law or Code of Regulations for the government of Ins. Asso. in Germany—although such a measure has frequently been spoken of, and steps actually taken, at least on one occasion, perhaps on others.

As a consequence of this state of things, much uncertainty prevails. Speaking generally, it may be said that—except in the Hanseatic Towns, where, as evidence of the wisdom of the promoters of that great combination, Ins. affairs are free and under no constraint at

all—the rule prevails in all the States of Germany, *that no Ins. Co. can be founded without the permission of the Gov.* Before granting this permission or licence, the Gov. officials examine the statutes and T. of prem., and demand alterations if anything be found not in accordance with the usual practice. While many an unsubstantial project has been so stifled in its birth, so too many a sound enterprise has been thwarted, or warped out of its intended proportions. There is, under such conditions, no freedom of development.

But the worst feature is that, all being arbitrary, there is no uniformity of action in the several States which make up United Germany. A new Ins. Co., when it has satisfied the requirements of its own State, and got into working operation, if it desires to extend its boundaries, must first satisfy the officials of the neighbouring States—for until this be done, it cannot appoint agents in them, or effect ins. At first it was mainly with the *Fire Cos.* that the State officials interfered; but they afterwards turned attention to the *Life Offices*, and required from them not simply an indication of the Mort. T. to be employed, but also an account of the “loadings” intended to be put upon the net rates; and a statement of the reserves to be held against the pol. at given ages. This was especially the case in Hanover and in Wirtemberg; and has been growing elsewhere.

The constitution of the Co. being settled in accordance with the views of the officials of the State wherein it was first founded, could not be altered to suit the differing views of officials in other States; and so much wrong and injustice have accrued; and from want of competition the bus. has been kept back.

Of late years this spirit of narrow interference has extended itself into the *Fire business*, and not only are the rates considered, but also the forms of proposal, and the conditions of the pol. This, while it is intended to look like official wisdom, is simply official ignorance; and we assume the appearance of a uniform law, or code of requirements, would be hailed by all concerned.

The mut. offices for the ins. of movable property appear to be in part controlled by the Law of 8 May, 1837 (s. 102); while the Proprietary Fire Offices are in some sort regulated by the Law of 9 Nov. 1843 (s. 341).

The agents appear to be subject to the requirements of the General Trade Ordinances; and, at least in some of the States, have been required to take out “Pedlars’ Licences”! but, as we have said, the practice varies with almost every State. The greatest restrictions have prevailed in South Germany, particularly in *Austria*.

1846.—Herr E. A. Masius pub. in Leipzig: *Fest’sche Buchhandlung*—Doctrines of Ins.—wherein all the laws relating to Ins. in the German Empire were set forth in detail.

1851.—Herr Masius addressed to the Ins. Convention which assembled this year in London: *A Rep. on the Various Branches of Assu. in Germany*. This we have already quoted under various heads; and the following remarks are appropriate to this section:

On account of the great diversity of Germany’s position, legis. respecting Ins. is very various. In *Austria* and *Bavaria* foreign Cos., whatever be the risks they insure, are forbidden; the same holds good in Prussia, where, however, a concession has been granted (excepting the German *Phoenix*, and the Austrian Cos.) to all the other great German Fire Ins. Cos., and to one English Co. besides. The regulations have not hitherto been so stringent for the transaction of bus. in the branch of *Life Assu.*, although the concession for it is only granted to foreign Cos. in exceptional cases. In *Saxony* only Fire Ins. is subject to the restraint of concessions, and since the year 1848 there has been much liberality in that respect. No concession is here required for the transaction of all other kinds of Ins. bus. It would extend too far to cite on this occasion *the universally varying regulations of each State*. . . .

1852.—The state of matters we have already described led to the publication about this date of two works, wherein it was attempted to specify the enactments which were actually in existence, and bearing upon Ins. Asso.

The first was a work—*Die Feuer Versicherungs-wesen nach Preussischen rechte* (Practice of Fire Ins. according to the Laws of Prussia) by Herr H. Gräff, Counsellor of Justice, Breslau. The work was divided into 4 sections, and contained—1. The Law of 8 May, 1837, and the Ministerial Instructions of 10 June, 1837. 2. The regulations of the *Allgemeine landrechts* concerning Assu. against Fire. 3. The regulations of the Rhenish Code relating to Ins. against Fire. 4. The Ordinances and Decisions which had been pub. since the latter.

2. The next (1853), *Die Privat Feuer Versicherung in Preussen* (Private Fire Ins. in Prussia), by Herr Hugo Meyer, Assessor for the *Magdeburg* Fire Ins. Co. In the intro. the author discussed the general laws of the country (*Allgemeine landrecht*); and the general legislative enactments (*Allgemeine gerichtsordnung*); the Rhenish Code of Laws (*Rheinische gesetzbuch*); also the law and instructions of 1837; and then follow the Penal Code and ministerial rescripts thereon, divided into three parts:—1. On the ins. against Fire Risks, treating especially of the Cos., and of the procuring of ins. by agency; of the conditions of ins.; of ins. contracts; and of the magisterial regulations for annulling ins. contracts. 2. Treats of Fire Losses, especially of the cause of damage by fire; of the course to be pursued by the insured after the loss has arisen; of the rights of the insurers on proof of claims; on the extent of the obligation to indemnify for losses; and of the nature of the warranty to make good the loss. 3. Relates to the practice and processes of the law in Fire Ins. matters.

By the aid of these two works the rights of the Cos., as well as of the insured, were made clear for the first time; and the necessity of a general law was also made manifest.

1853.—During this year an effort was made to introduce a “Law concerning the Regulation of Assurance Companies,” and the Minister of Trade, Manufactures, and Public Works drafted a measure which was printed. It was most commendable for its brevity; but as the measure did not become law, we shall only briefly review its main features.

1. As preliminary to the formation of all new projects, the assent of the authorities in the district wherein the projectors reside was necessary; and this could only be granted if the authorities were satisfied with the respectability and responsible character of the projectors. The penal law applied to projectors of every kind. 2. Foreign projectors of Assu. Cos. desiring to appoint agents in Germany must obtain consent of ministers, unless they had special agreement (*i.e.* Treaty) to the contrary. 3. Agents desirous of carrying on bus. for an ins. office must obtain assent of local authorities, only to be granted when satisfied of the respectability and responsibility of applicant. 4. To foreigners this regulation also applies. 5. The permission might be at any time revoked without giving reasons. 6. The withdrawing of permission should apply to all sub-agents. Agents and sub-agents before obtaining a licence must show that the parties whom they represent are duly authorized. 7. Persons acting or negotiating for others not duly authorized, to be liable to a fine of 200 th. (£29), or to imprisonment for 3 months. 8. Those who had obtained a licence under the General Trade Ordinances, must obtain a new authority on the passing of this law. 9. The Proprietary Cos. formed in the country to be subject to the preceding. 10. The Asso. for ins. of movable property to be still liable to the law of 1837.

Saxe Meiningen.—The Duke of Saxe Meiningen this year (1853) promulgated the following laws for Fire Ins. Cos. operating in his State—we give the substance only: 1. Ins. against the risk of fire of buildings and movable objects is only so far lawful that the amount of the ins. shall not exceed the true value at the time of the assu. 2. If during the period of ins. the value diminish, a corresponding reduction in the sum insured shall be made by the managers. 3. The double ins. of one and the same object by different Cos. is prohibited. 4. The General Fire Ins. Co. of the Principality of Hesse might retain the right to insure immovable property, according to their existing contracts, laws, and regulations, or as they should be empowered hereafter. 5. The ins. by other Ins. Cos. than that of Hesse, as well as the undertaking of ins. by the latter, was only to be permitted through the agency of recognized agents, who, as well as the Ins. Cos., must have a special licence for this purpose.” *The assu. of buildings by these Cos., and by the above Co., is only allowed when the buildings to be assured in towns lie beyond the circuit of the walls; and are distant at least 100 feet from other buildings or building grounds.* 6. The present law to apply to all ins. contracts which should be either concluded after the time of its pub., or should be renewed for 6 months after the publication of this law, but not to those already existing; but the managers might enforce No. 1 of these regulations at any time on discovering an excess of ins. 7. The requisite further regulations in view of the execution of this Ordinance would be made public. Contraventions of this law to be punished by fines up to 100 guilders (£8 10s.); or by corresponding terms of imprisonment.

During this year several Ins. Cos. were authorized by direct Order of the Council of H. M. the King.

1860.—In Austria a decree was issued this year, as an instruction to the Imperial Commissioner, “concerning the formation of funds for Life Assu., and the conduct of the same.” This prescribes exactly how the reserve of Life Assu. Cos. is to be calculated; and how a special “assurance fund” is to be formed, which must at least equal this reserve. The Gov. Commissioner must see that attention is paid to the decree; and the bal.-sheet is to be submitted to him for examination. Here there seems to be no elasticity—no power of adjusting the fund to the actual requirements of the case, as indicated by the mort. experience of the Asso. It may therefore at any time be too much or too little, according as the experience may vary from the orig. Mort. T. upon which the operations of the Co. were based. We do not know if any steps have since been taken to remedy this defect.

1866.—The 4th article of the Constitution of the North German Confederation, inaugurated this year, provides that *Legislation upon Ins.* shall fall within the province of the Confederation. (See 1869.)

1869.—The Parl. of United Germany not having taken any action under the power of the Constitution of 1866, towards legislation regarding ins., the Prussian Gov. attempted (in 1868) to pass a new law, applying of course only to Prussia. This Bill was strongly opposed, in the interest of the Ins. Offices, on the ground that the legislation on this subject was to be general to the whole Confederation. The measure was accordingly withdrawn, without its provisions being discussed.

In the mean time the German Life Ins. Institute had considered the Bill put forward by Prussia, and considering its scope too restrictive, prepared and presented to the Ho. of Representatives an opposition Bill, founded on what were termed “liberal principles.” As a counter-movement, but really working in the same direction, the managers of several

German Ins. Offices met together, drew up, and submitted to the council of the N. G. Confederation, two Bills—one relating to all kinds of Ins. Cos.; the other relating especially to Fire Ins. Cos. These Bills were founded on the principle that the then burdensome restrictions upon the carrying on of Ins. bus. and the estab. of new Cos. should be entirely removed; but that the law should take steps to insure such publication of accounts, and other particulars, as would enable persons to acquire a knowledge of the position of each Co.—thus in fact inaugurating a line of policy which has had many advocates in the U.K., and which at length formed the base of the legis. here (England) in 1870.

Those who desire to consult the detailed provisions of the first of these two Bills, as prepared by the Ins. Managers, will find an excellent translation of the same [by Mr. D. A. Bumsted, F.I.A.] in the *Assu. Mag.* [vol. xv. p. 285], prefaced by elaborate observations and arguments by Herr Finanzrath Hopf, who, while taking part in the discussion on, and even in the preparation of both the said Bills, did not concur in the measures as finally settled, and here states his reasons at large as to the points on which he disagreed from his colleagues. (See sub-heading *Life Ins.*, at this date.)

1870.—At this date it had become a custom in Prussia for officers holding high positions in the Civil Service to lend their names and titles to Ins. Cos. to be used as directors, and to fill other offices. To this practice a very serious opposition became manifest—the business of ins. being in the main foreign to the functions of their official position. The Minister of Finance, Von der Heydt, about this date forbade the officers in his Department to have any such connexion with Ins. Cos.

1873.—The regulation of Ins. Cos. in Germany having now become an Imperial question, *Wurtemberg* and *Bavaria* gave up this year all State regulations as affecting Life Ins. Asso.

1874.—A Convention was entered into on 27 March this year between the British and the German Governments for the reciprocal regulation of the position of Joint-Stock Cos. in their respective dominions. This Convention provides:

That Joint-Stock Cos. and other Asso., commercial, industrial, and financial, constituted and authorized in conformity with the laws in force in either of the two countries, may freely exercise in the dominions of the other all rights, including that of appearing before tribunals, whether for the purpose of bringing an action or for defending themselves, in conformity, however, with the laws and customs in force in the said countries. That these dispositions shall be applicable as well to Cos. and Asso. constituted and authorized previously to the signature of this Convention, as to those which may subsequently be so constituted and authorized. It is agreed that such Cos. or Asso. constituted in either of the two countries shall only be admitted to the exercise of their bus. or trade in the dominions of the other country, if found to be in compliance with the conditions prescribed by the laws of that country. That the said Convention, made without limits as to duration, may be revoked by either party giving a year's previous notice, and that such modifications may, by common consent, be introduced into it which experience may show to be desirable.

1875.—The Pedlar-tax formerly charged upon Life Agents who canvassed for ins. in Germany was this year given up by the Gov.

Life Contingencies.—This important branch of mathematical science does not appear to have received very early attention in Germany. Herr Hopf said (1860): "It was not till the middle of the last century that the inquiry into the law of human mort. made any great progress:" and he continues:

The man who distinguished himself, not only in this branch of statistics, but who examined into all the theory of pop., and raised it into a science, was Sussmilch. The work published by him, *Die Gottliche Ordnung*, etc., appeared first in 1741, and was followed by several much enlarged editions. It forms the basis of all the later inquiries into this wide subject. Not long after a T. of Mort. had been constructed by Sussmilch, the mathematical rules for the calculations as to Life Assu. and Annu., founded on such observations, were also made public by several learned men in Germany. The most prominent at that time were Euler, Florencourt, Karstens, and Tetens. The latter treated the whole method of these computations with such sagacity and judgment, and gave at an early period (1785) such practical rules for performing the calculations, that his directions are not, even to this day, to be considered as antiquated; and they form the foundation of all later labours in this field. But it was long before the principles laid down by those learned men were employed by the Inst. depending on human life; and a great many widows and burial funds were consequently estab. with the old imperfect regulations, even after the appearance of their works.—*Assu. Mag.* vol. ix. p. 43.

1742.—Sussmilch's *Die Gottliche Ordnung*, etc., was first pub. this year. The way in which it contributed to the science of Life Contingencies was by furnishing available data for such inquiries, and generally drawing the attention of scientific men to the question of Vital Statistics, and the use to be made of them,—as indeed Herr Hopf has already explained; although we are inclined to think he has taken a somewhat too favourable view of the influence exercised by the work of this writer.

1760.—Euler, a Swiss, had settled in Berlin as early as 1741, and had written a memoir on *Games of Chance* in 1751, and on *Pop.* a few years later; but it was only this year that he produced a work which embodied a real contribution to the science of Life Contingencies: this was his *Recherches sur la Mortalité et la Multiplication du Genre Humaine, et sur les Rentes Viagères*, wherein he propounded a method of calculating widows' annuities. But even in this he had been long anticipated by the English writers. (See 1785.) [EULER.]

1765.—Herr J. H. Lambert pub. in Berlin a treatise: *Beiträge zum Gebrauche der Mathematik und deren Anwendung*, wherein he gave a chap. "On the Certainty of Inferences deduced from Observations and Experiments;" and the example with which

he concluded the illustration of his theory was the deduction of the Law of Mort. in London (from the B. of Mort. there) by means of a curve, of which we shall speak more in detail under the gen. title of MORT. T., HYPOTHETICAL. The 3rd vol. of the work was not pub. until 1772. Mr. Milne considered that Lambert "first demonstrated clearly the principal properties of T. of Mort."—*Ency. Brit.*

It was during the period 1765–75 that Herr J. H. Lambert investigated the London and Brandenburg Bills of Mort., and made the first attempt at applying the Differential and Integral Calculus to the construction of T. of Mort. The Law of Mort. he endeavoured to represent by an algebraical equation.

1776.—Herr Tetens, in his introduction, appears to claim Herr Nicholas von Fuss, as having contributed to advance the science of Life Contingencies in Germany. It is prob. he did so in connexion with Euler (whom he afterwards accompanied to St. Petersburg), but we do not find any direct traces. [Fuss.]

1781.—Von Carl Chassot de Flourencourt pub. at Altenburg: *Abhandlungen aus der furistischen und Politischen Rechenkunst*, which is known by the short title of "Political Arithmetic," and wherein he investigated the Law of Mort. algebraically, following however, on the lines previously laid down by Euler and Lambert. He added nothing original but three T. of Mort.—one for *males*, another for *females*, and a third for both sexes without distinction. The data in each case was derived from the *Gottliche Ordnung* of Sussmilch. He also gave a new arrangement of the data furnished by Deparcieux's orig. T.—assuming 10,000 for the radix, and inserting the numbers under 3 years of age merely according to Herr Kersseboom's T.; this, however, does not differ materially from the orig. T. He gave T. of Annu. values calculated upon his arrangement of Deparcieux's T.—but making the annu. payable at the end of every year the life survived.

1784.—Herr Karstens pub. in Halle: *Theorie der Wittwenkassen*—the Theory of Widows Funds—wherein the questions involved were discussed on scientific principles.

1785.—Prof. Joh. Nicol. Tetens, "Professor der Philosophie und Mathematik zu Kiel," pub. at Leipzig: *Einleitung zur Berechnung der Leibrenten und Anwartschaften die vom Leben und Tode einer oder mehrerer Personen abhängen mit Tabellen zum praktischen Gebrauch* ["Introduction to the Computation of Life Annu. and Reversions which depend on the Life and Death of One or More Persons, with T. for Practical Use"]. He commenced his preface with the statement that on account of the changes which had occurred in the *Calemberg Widows Fund* [of which we have already spoken under sub-heading *Annuities*], it fell to his duty to make himself acquainted with this branch of arithmetic, in view of understanding the present and future liability upon the fund; and finding many points involved in his inquiry nowhere cleared up, he pursued his investigations, and many other results of consequence were arrived at; and these suggested the idea of the work he now pub., wherein he could add, in add. to what was then known upon the subject, such particulars as he thought "most concise and to the purpose."

Tetens gave in his preface a condensed view of the researches in the theory of Life Annu. made by Halley, De Moivre, and others. The works of Simpson he speaks of with much praise; and then introduces his own contributions to the subject in the following terms:

Of the more recent British authors on this matter only Morgan and Price have come to my knowledge, as having produced anything excellent or original. In the general theory both agree with Simpson. Morgan has indicated a double method of computing annu., which has in all respects much value. Dr. Price, who with justice much recommends it, seems, however, to ascribe to it somewhat too great pre-eminence. *I have not found it so easy or short as not to have had reasons for devising yet another, and for preparing this latter method.* One can compare them and judge. Dr. Price has made many orig. remarks of consequence in practice, especially in the 4th ed. of his *Obs. on Rev. Payments* in 2 vols. 1783.

He proceeds in the same candid manner:

In 1752, when the above-mentioned *Select Exercises* of Simpson appeared [in England], it seemed that in Germany one was not yet so much as acquainted with the *elements* of these calculations. We had Widows', Orphans', and Dead People's Funds, but of what description? All projected at random, or upon an approximative, but in these cases generally deceptive calculation, without just principles, or upon such as have also had the result, which the like ill-calculated projects generally give rise to. Still, we do not need to blush on this account, for such practical follies have likewise occurred among our neighbours on the other side of the sea. They have Provident Associations, which are nearly as faulty as the most faulty of ours, and which are of more recent date than the writings from which they could instruct themselves of a better administration. Reason in books is also with them not reason in practice. But what might surprise is this, that we in Germany remain behindhand in the science itself; we who are, moreover, so very active in transplanting among us new foreign discovered knowledge.

In 1760 Euler first propounded his method of computing Widows' Annuities. It was considered of importance as a new discovery, and certainly the illustrious man had found it out of his own accord, but it had no quality less [greater] than that of novelty: it was the same method of computing according to the Mort. Tables, as had long been known to the English. From that time forward we have made it a study. Messrs. Seyberth, Krieter, Lambert, Fuss, Oeder, Lons, Bugge, and Florencourt have laboured therein with intelligence and advantage [see these names in their alphabetical places in this work]. We may say that we are equal to the Britons in those branches of it which immediately appertain to our requirement, and if one looks at it strictly, we excel them in some one or other. But if we wish to be just, we must admit that Simpson has gleaned in no German book, and also that much might be learned from Price, after one has likewise mastered all that has been written on the subject by our countrymen.

This position of the science, and of so useful a science, was the circumstance which chiefly incited

me to pursue it further than I first intended, and further perhaps than the bus. which led me to it, would have required for itself alone.

The Britons have long been our teachers; or properly, *they could have been so*. May not the Germans then embrace the resolution, so to bring it about that in their turn they [the English] can learn something from us if they will. *I would fain incite and give opportunity to that purpose.*

He did give the opportunity, by introducing a T. of Mort. arranged on the columnar method—such as was introduced by Barrett a quarter of a century later. This we have already explained fully under COLUMNAR METHOD.

At the time Professor Tetens wrote so frankly of our advancement, and expressed such a desire to emulate us, a long course of political troubles was about to cause the postponement (in *Germany*) until more peaceful times, of the various Provident, Annuity, and Assurance Institutions which have since been founded on correct principles, and to the appreciation of which, and as offering valuable information, the work of Professor Tetens had long been available.—F. Hendriks, *Assu. Mag.* vol. i. p. 4.

1854.—Herr A. Weigand pub. in Halle : *Die Mathematischen Grundlagen der Lebens-Versicherungs-Institute.*

1857.—Dr. Karl Rädell prepared for pub. by “the Central Asso. for the General Benefit of the Working Classes,” a work : *Full Instructions for Inquiring into the Working of Assu. Cos. in Reference to the Questions of Human Life and Mort.* This might well be supposed from the circumstances of its pub. to be a popular work, but it is by no means such. It enters into the most minute details of the computation of Life Ins. premis. and reserves ; including numerous calculations and T.

1860.—Dr. Fischer pub. at Oppenheim : *Grundzüge des auf menschliche Sterblichkeit gegründeten Versicherungswesens*—Elements of the Science of Life Assu.

1868.—There was this year founded in Berlin, by Messrs. W. Lazarus, R. Busse, Dr. Kanner, Dr. Zillmer (of Berlin), Dr. Heym (Leipsic), Herr Hopf (Gotha), and Dr. Wiegand (Halle), the *Collegium für Lebensversicherungswissenschaft* (Inst. for the Science of Life Assu.). The object of the Inst. as stated in its stat. is the promotion of Life Ins. by the cultivation of those technical and scientific studies on which it is founded. It proposed to work upon the model of the English Inst. of Act.—See sub-section *Mort. T.*

The Laws of this Inst. are given in detail in the *Assu. Mag.* vol. xiv. p. 460.

About this date the late Dr. M. Kanner, Actuary of the *Frankfort Life*, contributed to the *Deutsche Versicherungs-Zeitung* a paper : *On the Determination of the Average Risk attaching to the Grant of Assu. upon Lives.* A trans. appeared in the *Assu. Mag.* (vol. xiv. p. 439).

Various other points in the progress of the science of Life Contingencies in Germany will be made apparent by reference to the list of works given under sub-heading *Ins. Literature.*

Life Ins. (Historically considered).—Whilst, upon the dictum of Herr Hopf, it is generally conceded that Widows Funds, Burial Funds, and Annuity Sos. were set on foot in Germany as early as the 17th century, it seems yet an estab. fact that no Life Ins. Asso. worthy of the name (if any at all) was attempted to be set up until the present, the 19th century. It is not easy to account for this ; but the more or less continued warfare in which the nation was engaged furnishes prob. the real solution to the problem.

Herr Hopf says more directly hereon :

The Burial Funds are Life Assu. Sos. upon a small scale. Every member pays a prem. either once only, or periodically to the fund ; and after his death a certain sum is paid out to his heirs. Though the idea of estab. Ins. Sos. for higher sums, and for the admission of members from more extended localities, was made very intelligible by the great number of Burial Funds in Germany ; yet it required the obs. made in similar Sos. in England to stimulate the Germans to found such Inst. . . . *Assu. Mag.* vol. ix. p. 44.

1730.—About this date was promulgated the Prussian Maritime Laws, known very generally as the “Ordinances of Königsberg,” wherein is contained the following :

X. All ins. on expected gain, wagers, or such inventions, future freight-moneys, seamen’s wages, and men’s lives, are universally forbid, and declared of no force ; the seamen are, however, permitted to ins. what goods or effects they may have : nor is any one going on a hazardous voyage prohibited from insuring by a pol. lawfully executed, a certain sum of money for his ransom, in case of being taken.

Probably the prohibition of Life Ins. herein contained was only intended to reach those of a speculative class. [GAMBLING INS.]

1806.—The first *bonâ fide* attempt to estab. a Life Ins. Asso. in Germany of which we have any knowledge was made this year in *Hamburg*, by Herr W. Benecke, the author of the excellent works on Marine Ins. which bear his name. It is said to have been founded on the model of the *Amicable Life* of Lond.,—which completed its century of existence this very year. The enterprise found very little support in the “Fatherland” : the war which was prevailing throughout Europe nearly, stood very much in the way of its progress. “Sorely afflicted by heavy losses, the inst. was compelled, after a short time, to close its transactions.”

1822.—The next attempt was made at Elberfeld, by the founders of the *Vaterländische Feuer Versicherungs Gesellschaft*, which had been estab. for Fire Ins. in 1822. The Life project was to have been conducted as a branch of the Fire Asso. ; but it did not succeed. Herr Hopf says in explanation : “Germany scarcely freed from foreign oppression, and

at that time too occupied with other more pressing interests, could not give to this undertaking the attention which was due to it; and thus it happened that it was again given up *before a single assu. had been actually completed.*"

1824.—The *Alliance Life*, etc., founded in London this year, very much upon the influence of the Rothschild family, immediately estab. agencies in Germany, and commenced to transact a considerable amount of bus. for that period.

1826-7.—Attempts were again made at this date to estab. a Life Ins. Asso. in Germany. The task was undertaken this time by Herr Arnoldi, an enterprising merchant in *Gotha*, who had been mainly instrumental in founding the *Fire Ins. Bank* in that city in 1821. The steps taken by this "patriotic man" are thus described by Herr Hopf:

He endeavoured first of all to make evident to the public the name and advantages of Life Assu., which up to that time had scarcely been known in Germany. The small amount of Life Assu. which up till then had been effected was undertaken by English Cos. These last demanded high premis. without any return of profits. A prejudice was excited against them, by the fear that in disputed cases they would not be subject to the German laws; *but that it would be necessary for any legal process to be carried on in the English Courts, liable to their tedious prolixity and excessive costs.*

A very remarkable instance in point had in fact arisen about this period. The reigning Duke, Frederick IV. of *Gotha*, when he came upon the throne in 1822, undertook to pay the very considerable indebtedness of his predecessor, and to do this by way of annual instalments. In order to make sure of these payments, several of the citizens had insured the life of the Duke in three British Offices. Scarcely had these provident people their pol. in hand, before the Duke suddenly died (1825). The insured at once made demand for payment; two of the offices paid; the third refused, alleging as a reason that the certificates relating to the state of the health of the Duke were not founded on the truth. What followed we take from an interesting little book called "*The Recorder's Philosophy, or, Light from Dark Places.*"

The citizens of *Gotha*, who believed they had conscientiously fulfilled all the obligations required by the Stat. of the English Co., commenced an action against that Co. in the Court of King's Bench, London. The suit became protracted. A Commission of the English Court was even sent to *Gotha* for further investigation, where for fully six months it held its regular sittings, with the permission of the Gov. of *Gotha*, and by setting aside the local tribunals. But before the decision was rendered, the costs of the suit for the plaintiffs had increased to such an amount that they preferred to relinquish all further proceedings, especially as the final issue—judging from the manner in which the action had been conducted—seemed to them very doubtful. To give the reader an approximate idea of the costs, we only mention, that the lawyer [counsel] of the plaintiffs in *Gotha*—the famous Lord Brougham, who became afterwards Lord Chancellor of England—received for his attendance [advice]—he appeared but once before the King's Bench—no less a sum than £200 sterling!

This result we are assured contributed very much to the ultimate founding of the *Gotha Life* in 1829. We have met with another, and more romantically told version of this incident, as follows:

... One of the Dukes of *Gotha* died insolvent, owing about 500,000 thalers. His successor was idiotic, almost blind, and completely dumb. The creditors of the deceased Duke made arrangements with the Ministers for a settlement of their claims: and the life of the reigning Duke was insured in English Cos., several of which did bus. on the Continent. Eight months after the payment of the first prem., the reigning Duke died from a neglected cold in the head. The *post-mortem* examination showed that the Prince had disease of the brain, which caused the fatal termination of his sickness. The English Cos. refused to pay. A suit was tried in England, and Lord Brougham pleaded it with all the impetuosity of a genius then in its full vigour and youth. The English Cos. gained the suit; the creditors of the Prince of *Gotha* were ruined; but one of them, who had been delegated to attend the trial in London, had studied Life Ins., and he returned to his country, where he succeeded in estab. the Bank of *Gotha*, now an important German Co.—*Review Almanack*, 1874.

This version is prob. near enough for a popular hist. The purpose of this work is to present more exact details.

1827.—A writer in the *Edinburgh Review* of March this year, referring to the Life Ins. Asso. of the Continent of Europe, says: "One small So. estab. at Elberfeld, in the Duchy of Berg, is the only institution of this kind to be found in Germany, including *Austria* and *Prussia*. It does not transact business on an extensive scale" (p. 489). This was prob. an offshoot of the *Elberfeld Fire*, which had been founded in 1822.

1828.—The *Deutsche Lebens V. G. in Lübeck* (German Life Assu. Co. of Lübeck), known by its shorter title of "*Lubeck Life*," was founded this year—its first pol. being issued on 1st Dec.—as a Proprietary Co., with a subs. cap. of 1,275,000 marcs current (£76,500), in 425 shares of 3000 marcs (£180), of which one-tenth is paid up. It originally distributed to the insured one-half its profits every 7 years; now three-fourths every 5 years.

This Co. undertakes all the ordinary kinds of Life bus.; also endowments and life annu. The limits of Ins. ranged from £18 to £1800; and were restricted to healthy lives in Europe, or in countries not hitherto subject to the plague or yellow fever. Sea-voyages were not allowed during wartime; and in times of peace only in the Baltic, the North Sea, and the Channel between Havre and Portsmouth, during the seven favourable months, from 1st April to 31st Oct.; other voyages required a licence, with extra prem. Military service required extra prem. Death by duelling violated the pol. unless it had been 10 years in force, or was held by third party.

The premis. were those of the *Equitable So.* of Lond., and therefore deduced from the *Northampton T.* at 3 p.c. int. The distribution of profits was in relation to the sum

insured and the time the pol. had been in force. Only the survivors participated. The first division was to take place in 1835.

The progress of this Co. was very slow—the sums insured at the end of 1849 being £426,125 only; and the ann. income from prems. and int. £20,447.

1829.—The movement which had been commenced at Gotha in 1826-7 by Herr Arnoldi culminated in the complete founding of *Die Lebensversicherungs Bank für Deutschland in Gotha*—known popularly as “Life Assu. Bank of Gotha.” Its estab. had really been completed during the preceding year, and it commenced operations on the first day of this year with 794 members, insuring for £198,700. The So. is entirely mutual in its constitution. Its prems. were deduced from *Babbage's Equitable* So. T., first made public in 1826.

It seems desirable at this point to go back a little, and review some of the actual steps taken in the earlier stages of the formation of the So., and which we have only reviewed very generally.

From 1826, various pamphlets had been issued, to excite public interest in such matters; and in 1827 the first plan of the contemplated inst. was promulgated, under the title of *A Manuscript for Friends*, printed at Thüringen. From this it appeared that an asso., quite independent of individual speculation, was to be based on the purest principles of mutual assu. and unconditional publicity.

Such principles—which had been already carried through with the most flattering success by the *Five Assu. Bank* of Gotha—won so many supporters to the new scheme, that a provisional committee was named at the suggestion of Arnoldi, and in the beginning of 1828 the first inst. of the projected estab. was publicly announced, with an act of ratification by the Ducal Government.

From the interesting comparison of the views first presented in the pamphlets, in the form of regulations on the internal structure of such an establishment, with those eventually adopted at its first foundation, it will be clearly seen with what acuteness the founders of the Bank undertook their task, and what pains they had taken to select from a multitude of possible ideas those which were practically fit for their object.—*Proof Sheets*, 1856.

It will be interesting to read the views of Herr Rath G. Hopf, who became the distinguished Man. of the So., upon its early and distinctive features:

... Every one is a participating member who opens a pol. of assu. for life or survivorship with the Bank; and his share in profits is proportionate to the ann. prem. paid by him. The average ann. surplus, ascertained after 5 years' accumulation in the assu. fund, is divided amongst the participating members as profit. Every parti. member receives on the 6th payment of prem. the dividend [bonus] of his year of entrance; on his 7th payment of prem., the div. of his 2nd year's membership, etc. The dividends not yet declared to him when his assu. expires, either by death or voluntary retirement, would remain to the account of the remaining pol.-holders. . . .

The Bank undertakes assu. for whole life; assu. for a given number of years (short-period assu.); survivorship assu.; and assu. upon joint lives, by means of an easy division of the double claim in two survivorship pol. With other complicated, and less usual forms of assu., the Co. has little to do; nor does it include to any great extent the granting of life annu. It assures only the lives of persons resident in Germany, who are healthy; and not such as, through their bus. occupation, or manner of living, give reason to anticipate early death. It accepts assu. for sums from 300 thalers (£43) to 10,000 th. (£1429) on one life. He continues:

The prems. have been specially computed. They have for their basis the T. of Mort. pub. by the English mathematician Babbage, from the experience of the *Equitable* So. of Lond., considerably modified by the experience on the Continent—especially at the higher classes of age, the mort. at which appears upon the Continent to be considerably higher than in England. The T. so obtained shows that out of 6460 persons at the age of 10 years, only 10 are living at the age of 90, who at this age die together; whilst, according to Babbage's T., out of that number of persons at 10 years of age, there are still 170 living at age 90, all of whom expire before 98 years of age. The prems. being computed by this T. at 3 p.c. int., which provide for any possible fluctuation of mort. by the increase arising therefrom; and up to the present time [1852] have not only proved fully sufficient, but have also given a higher average div. than the add. thereto would lead us to expect.

The Bank not only assures (continues Herr Hopf) against the risk of death by disease of every kind, and against all accidents to which the assured is exposed, except through wilful negligence; but also pays the claims of those who have fallen in conflict for the restoration of peace and order, or in defence of their lives and property. The assu. suffers no prejudice by entering the militia; military men may be assured at the ordinary prem., and pay according to the risks of service in peace. The risks of active war service, which the Bank considers to begin when the troops are called into actual service before the enemy, after war has broken out, are excluded from the guarantee. In these cases the pol.-holder receives the value which the Bank would have given for the voluntary surrender of the pol. In cases of suicide *non compos mentis*, the full value is given. Military men also receive this higher return who relinquish their pol. on account of war service, and do not apply for a suspension of them only.

The assured may travel within the limits of Christian Europe, and voyage on the East and North Sea between Havre and Portsmouth, without perilling the validity of the assu.,

for the space of one year, and without giving information to the Office. Other and longer journeys require a licence; and if greater risk is incurred, a corresponding prem. must be paid. He proceeds:

As the Gotha Bank was the first to excite and animate the desire for Life Assu. in Germany, it was also desired that its institution should keep pace with German wants and German peculiarities. *In many respects therefore it must deviate from English models.* Besides differing in the conditions of assu., this is especially the case in working out the mort. principles. The mode of settling the rights and obligations of the members—the successive and entire division of the surplus by an ann. average, in proportion to the ann. prems. contributed by the insured—is peculiar to this Co., and different from the plan hitherto pursued by most of the Assu. Cos. in England. The Bank endeavours thereby to act with strict justice towards its members, and to pay back to each, as far as possible, that share in the surplus which he, by his payments of prems., has contributed towards it. It does not benefit one class at the expense of another. The greater part of the English Cos. ascertain the surplus after long periods, and allow it to the sums assured, frequently in a proportion arbitrarily fixed, but mostly on an increasing scale for the older members, and in different degrees, according to the different classes of age in the Co. The greater part of the purely mutual and mixed Cos. existing in Germany [1852] have followed the principles of the Gotha Bank, and not those of the English Cos., so that the various systems of the latter are but little known amongst us.

Of the other peculiar regulations of the Gotha Bank, “which it has first introduced into the assu. system on right theoretical principles, and in harmony with the orig. basis,” may be mentioned the following:

1. Every assurer may select from the proportionate T. of prems. any rate less than that at his own age at admission, and make up the difference by a single payment. *The smaller prem. is then the measure of his share in the Bank, and in the surplus itself.* The single payment devolves to the Co. immediately, without having any dividends attaching to it. It is considered as a new assurance in the reserve, to be set apart in the same manner as if the assured had been admitted into the Co. at the younger age to which the rate of prem. which he has selected belongs.

2. In conformity with the basis of their prem. T., *not only does the payment of prem. cease on the assured attaining his 90th year, but he may also receive, on his attaining this age, the sum assured in his lifetime: since at this age the reserve is equal to the sum assured.* But every member to whom the term of the 90th year appears too distant, may, if he desires to be placed in earlier possession of the sum assured, or to cease paying the prem. on reaching a higher age, when he may be less able to acquire an income, enjoy for a proportionate prem. the advantage of ceasing to contribute and of obtaining the sum assured at any younger age he pleases. “A life assu. of this character is not exactly the means on the death of the assured of providing for his representatives; but it will enable him to make a provision for himself at the later period of life.”

3. The advantage enjoyed by those who withdraw is definitely fixed by the *Gotha Bank*, and depends not in each particular case on what is called the market value of the pol. *The Bank proceeds on the principle that, with few exceptions, the full value of the pol., or the whole reserve, should not be repaid,* since the right to withdraw from the ins. compact belongs only to the assured: and since in most cases only healthy persons take advantage of it: whilst the invalid and deteriorated lives remain in the Co., and occasion a greater mort. (as has already been shown to be the case at the older ages in the *Gotha Bank*), to equalize which the Co. needs the profits from the withdrawing members. “The practice of the Gotha Bank is theoretically correct, and consists in increasing the amount paid for the purchase, in proportion to the absolute value of the pol., allowing of a gradual increase to that point at which the full sum assured would be paid at last to the assured in their lifetime. . . . By the same rule is regulated the amount which the Bank may advance to the assured on the mortgage of their pol. The Bank pays the full reserve, as before observed, only in a few exceptional cases,—as, for instance, when the assu. is invalidated in consequence of some change in the circumstances of the assured, such as being called into actual military service, or by dying by his own hands (not *felo de se*). In cases of intentional suicide the usual price only is allowed.”

4. Another regulation peculiar to the *Gotha Bank* is that the assu. may be temporarily suspended during a journey or a campaign, and during this time the payment of the prems. is discontinued; provided that when the pol. (the assured being in good health) is again in force, not the amount of the full prem. that would have been paid in the interval, but only that portion of it by which the reserve would be increased, should afterwards be paid.

We have preferred to quote the somewhat prolix account of the foundation features of this Assu.—*it ought not to be designated a Co.*—in the words of the Manager, in order that no possible mis-statement might arise. The *Gotha Life Assu. Bank* is the model Life Ins. Asso. of Germany.

The progress of the So. has been very remarkable, as will be seen in the following figures:

Ins. proposed between 1829 and 1853	No. 36,583	Amount £7,667,712
Of these Completed	27,210	6,438,406
„ Expired and Lapsed	4,264	1,202,615
„ Became Claims	4,519	1,076,470

The success of the operations of the So. is shown in the “Bonus” or dividend returns made to the pol.-holders. These had ranged from 18 to 31 p.c., giving an average of 24 p.c. on the prems. paid during the entire period.

The detailed Mort. Experience of the So. will be reviewed under sub-heading *Vital Statist.*; while the Tabulated Experience will be given under *Mort T.* 1863.

1831.—An outbreak of Asiatic Cholera in Germany this year is said greatly to have helped forward the progress of Life Ins.; and especially to have augmented the number of members in the *Gotha Bank*.

Three new mutual Life Ins. Asso. were founded this year in Germany, of which we now proceed to give an outline.

1. *Die Leipziger L. G. in Leipzig*—the *Leipzig Life*—founded at Leipzig upon the basis of the *Gotha Life Assu. Bank*, and governed by the like regulations. Its prems. were the same, but the pol. were to become payable at age 85 instead of 90. Its appropriation of surplus was not made upon the results of any one year, but of several years combined. For surrender of pol. one-third of the prems. paid was given. Limits on any one life ranged from £43 to £714.

The progress of this Co. was slow. By the end of 1849 it had only existing on its books 4413 pol., insuring £744,300; while its prem. income, with interest, was £33,170.

2. *Die Hannoversche L. G. in Hannover*—the *Hanover Life*. The system of this Asso. differed entirely from the preceding; it worked very much on the "contribution plan"—that is to say, its prems. were not equalized over the whole of life, with a fixed percentage added for expenses of management. Its plan was to ascertain at the end of each year the sum required to discharge losses and expenses of man., and then to apportion this charge among the members according to their respective ages. Hence the rate of contribution increased steadily with the age of the insured, apart from any special incidents of any particular year—but there was a limit placed upon the excessive increase which might otherwise arise at the higher ages. From age 66, the factor of division for all later ages remained equal at 5½ p.c. on the sum insured. To secure the continuance of this advantage, every member was required to pay, on commencing his ins., a single entrance fee; and every one insured for the whole of life paid annually during the first 10 years a proportionate extra prem. Each member, by way of security for the payment of his proper contribution at the end of the year, had to pay at the beginning of the year a sum equal to his expected first contribution. On the completion of his ins., this sum was taken into account for his last contribution. The scale for each 100 thalers insured is as follows:

Age.	Ann. Contribution.	Single Entrance Money.	Yearly Extra Payment for first 10 years.
20	361	1'052	267
30	979	1'542	396
40	1'361	2'312	594
50	1'920	3'604	927
60	3'653	6'142	1'608
66	5'250	...	2'521

The prems. were computed upon data derived from a combination of several older T., "namely, those given by Süssmilch and Baumann, but which still deviates materially from the well-known Süssmilch-Baumann T. of Mort., and shows relatively a much smaller mort." At age 50 this T. shows 68 deaths out of 3718 living—equal to a mort. p.c. of 1'829, which, increased by 5 p.c. for expenses, makes the contribution at age 50 to be 1'920.

No return of prem. was made on voluntary withdrawal from the So., nor in the event of death by suicide or duelling; but in the instances of pol. invalidated by reason of travelling beyond the permitted limits—which was only 150 miles from their residence!—or by reason of military service, the entrance money with 2½ p.c. int. was returned. The Co. undertook whole-life and short-period pol.

The members were originally divided into 3 classes, according to the sums insured; and each class had to provide for its own death claims. This was altered in 1848, since when there is only 1 class. The limit of ins. ranges from £14 to £429.

The progress of the Office was very slow. At the close of its financial year 1849-50 it had in force 2802 pol., insuring £225,857, and yielding in prems. and int. £7352.

3. *The Giessen Life Office*, concerning which we have no details.

1836.—This year there were 2 new Life Offices founded, each of the proprietary class: 1. *Die Berlinische L. G. in Berlin*, known as the *Berlin Life Assu. Co.* In constitution this was a mixed proprietary Co., after the plan of the *Lubeck Co.*; the insured take a share of the profits, but have no voice in the management. The capital consists of 1,000,000 th. in 1000 shares of 1000 th (£143) each, of which 20 p.c. is paid up, carrying int. at 5 p.c. The Co. undertook ins. of sums from £14 up to £1400, on the lives of healthy persons for whole or short term. Life annu. were only granted in cases where life pol.-holders desired to receive the amount under their pol. by way of annu. The Co. also issued endowment policies.

The conditions regarding limits of travelling were the same as in the *Gotha Bank*; and

so as to surrender values in the ordinary way, or in case of death by suicide or duelling—the value to be allowed depending upon the determination of the board in each case. If the insured enter upon active military service, or *other dangerous occupations*, or undertakes any sea voyage without licence, claim void. *But for an extra prem. of 3 p.c. on sums insured, the risk of Prussian military officers during warfare was undertaken.*

The *prems.* charged by this Co. were the same as those of the *Equitable* So. of Lond. The *surplus* was (as in the *Gotha* and *Leipzig* Cos.) to accumulate with the Life Fund for 5 years. At the termination of this period, the surplus of the first year of the period was applicable for division of profits; and so on henceforth—always keeping 4 years' surplus in hand.

The Co. made very fair progress. At the close of 1849 it had on its books 6619 existing pol., insuring £1,110,157, and yielding in *prems.* and *int.* £54,882.

A remarkable feature is associated with the founding of this (the *Berlin*) Life Office. The promoters obtained under the charter of the Co. the exclusive privilege of carrying on the business of Life Ins. in Prussia—at least as to any new Cos.: the agencies of previously existing German, as also Foreign Cos., being allowed to continue. This led to a feeling of great dissatisfaction, the more especially as the features of the Berlin Office were not regarded as being peculiarly advantageous to policy-holders. As a consequence, a deal of life bus. was conducted during this period, down to 1851, in a clandestine manner, viz. through “correspondents” (purposely not designated *Agents*) of British Cos. Those who desire further details on this point may consult Mr. Neison's evidence given before the Select Parl. Com. on Assu. Assn. which sat in 1853 (vide Q. 3629 to 3666).

2. *Die Lebensversicherungs Anstalt in München*—the *Munich* Life Assu. Co.—which forms part of the “*Hypotheken* (Loan and Discount) Bank.” The Office is purely proprietary. The regulations of the Life Assu. branch conform generally to those of the *Gotha* Life. The Co. only allows a surrender value in case of withdrawal after existing at least 5 years, and this on whole-life pol. Where pol. lapse by reason of breach of travelling, by war service, suicide and duelling conditions, no return made. The limit of ins. was from £25 to £2000 on healthy lives; and the operations were limited to the kingdom of Bavaria.

The bus. made very slow progress. The number of existing pol. at the close of 1849 was 1111, insuring £125,208.

1842.—This year there was founded *Die Braunschweigische Allgemeine Versicherungs Anstalt*—the *Brunswick* Gen. Assu. Co.—which was in reality but an extension of the *General Widows Annu. Pension* So. founded 1824 [*Widows Funds*]. Besides Life Ins. for the whole term, or for short periods, ranging from £14 to £714, it granted *Annuities*, immediate or deferred, and also survivorship annu. for widows—these in add. to the original Widows Pension scheme—making 4 branches in all.

The conditions of Life Ins. were in substance similar to those of the *Gotha* Bank. As to surrender of pol. it had special conditions: no surrender value was given on the voluntary withdrawal of any member. Those who were compelled to give up their pol. in consequence of going to reside out of Germany, or by reason of military or naval service, or on account of imprisonment for criminal offences, as well as those who could give good grounds for their withdrawal, and such as were sufficient to satisfy the board, might receive compensation; but in these cases the pol. must have been at least 5 years in force. In these cases two-thirds of the office value would be given, but without any claim on future profits. The same would also be given in case of death by suicide, duelling, or hands of justice.

As to *profits*, every 5 years, after making a sufficient reserve to meet liabilities under pol., the surplus was to be divided in the proportion of two-thirds to the existing members of the class to whom the surplus belongs—provided they have been members at least 5 years at date of division; the remaining one-third being set aside as a guarantee fund. The mode of allocation being upon the actual value of the pol.

The *prems.* were based upon Brune's T. deduced from the experience of the *Prussian Widows Pension* So., with slight modifications; *int.* 3 p.c.; and an add. of 10 p.c. expenses and contingencies. “These computations have been made on the safest and most prudent considerations; and the knowledge and experience with which the stat. have been framed are conspicuous in the correct theoretical principles which distinguish them.”—*Herr Hopf*, 1852.

By the Co.'s stat. its operations were to extend all through Germany; but in the earlier period the management limited itself to the Duchy of Brunswick and parts of Hanover.

The progress of the bus. was very slow. At the end of 1850 it had in existence only 604 pol. insuring £45,871. There was a division of profits in 1849. [*Widows Funds*.]

1845.—There was founded this year—*Die Frankfurter L. G. in Frankfurt-au-Maine*—known generally as the *Frankfort* Life Assu. Co.—with a nominal cap. of 3,000,000 fl. (£250,000), in 6000 shares of 500 fl. (£41). According to the stat. the members insured for the whole of life were entitled to parti. in profits—proportion not defined. The Co. undertakes life ins. for whole-life, and short-term, also survivorships, deposit ins., endowments, and life annu. The *prems.* were below those of the *Gotha* Life.

The insured might travel in the Christian countries of Europe; voyage on the North

and Baltic Seas during the favourable months from 1st April to 1st Oct.; and as far as Havre and Portsmouth, without forfeiting ins. Other and longer journeys required a licence and payment of extra premiums. Surrender values at discretion of the board on pol. 3 years in force, which became void by military or naval service, travelling beyond limits; or by suicide, duelling, and the penalty of the law.

At the close of 1848 the Co. had in force ins. to the amount of £75,202, yielding in premiums, £3778.

1850.—Herr R. G. Hopf, of Gotha, estimated the amount of Life Ins. in force in Germany at the end of this year in 7 offices to be about £6,100,000 on the lives of 31,936 persons; the premiums, resulting being, with interest on accumulations, £274,858. If the returns of 5 other offices be added—which, however, could only be obtained up to the end of 1849—the ins. in the 12 offices would aggregate to £7,379,000, the premiums on which would, with int. on investments, amount to £335,000.

At the same date Herr E. Masius estimated the amount ins. on “Lives and Reversions” at £9,000,000.

The *Preussische National Versicherungs Gesellschaft in Stettin* was founded as a proprietary office, with a nominal cap. of 3,000,000 th. Its primary object was Fire Ins.; but Life Ins. became added as a branch of its operations.

Among the German Life Offices were frequently classed at this date the following: The *Trieste* Life, founded 1834 (worked in connexion with a Proprietary Fire Office), and having a limited bus.; the *Munich*, founded 1836; the *Vienna* Life, founded 1840 as a mutual office, with a progressive bus.; and 2 Life Offices in Hamburg, viz. the *Harmonia* Mut., founded 1846; and the *Janus* Life and Annu., founded 1848, and doing a considerable business.

1851.—The Rep. of Herr Masius, delivered by way of Address before the Ins. Convention held in London this year, contained the following passages:

Life Ins. was first introduced in the year 1828-9 by the Proprietary German Life Assu. Co. in Lubeck, founded in the year 1828, and in the year 1829 by the Mut. Life Assu. Bank for Germany in Gotha. It has in truth made a satisfactory progress; but is still by many degrees not so familiar to the people, and will for a long time not be so much profited by, as in England. Much of this is owing to the difference of the national character, and to our laws relating to land: and we may even say to our inferior wealth—although the latter argument would lead us to expect the contrary result. Of Mut. Cos. we possess 6—namely, the *Gotha*, *Leipzig*, *Brunswick*, *Hanover*, *Vienna*, and *Hamburg*. The greatest and most important of all is that of Gotha, which consists of about 16,000 persons, and has 25,304,200 thalers (£3,643,460) assured. After Gotha comes Leipzig, with upwards of 5,000,000 th. (£714,286); the rest have far less amounts of capital sums assured. A like number of Proprietary Cos. have been estab. in Lubeck, Berlin, Trieste, Munich, Frankfurt, and Hamburg; but altogether they are far from having yet reached the sum which the Gotha has obtained by itself. The greatest is the Berlin Co., with 8,000,000 th. (about £1,143,000); after that follows Lubeck with 8,000,000 marks current (about £470,000).

In general the Cos. in Germany may be considered to be in a healthy state; they have all been formed on the model of the English Cos., and their operations are founded upon the best recognized T. of Mort. in England. Whoever at first merely copies T. of rates, without a mathematical knowledge of the construction of T. of Mort., soon becomes convinced of the untenable character of his bus., and has afterwards to make good the losses which he may have incurred at an earlier period. On the other hand, we have been for several years employed in bringing into consideration these long-neglected statistics; and foreign countries may at no distant time expect to procure some good T. of obs. of mort. in Germany. Amongst others I may mention those of Herr O. Brune, in Berlin, and of the Statistical So. for the Kingdom of Saxony, in Dresden, by whom this subject is earnestly inquired into.

Besides the above-mentioned grounds why Life Assu. is yet so little participated in by us, may be reckoned a very important one—the defects arising from too great competition. Unusually powerful reasons concur on all sides in this year in proving this assertion. In the town of Cologne a Co. has been founded called the *Germania*, with a share cap. of 6,000,000 th. (£857,000); in Leipzig another of the same kind—the *Teutonia*—has been projected, with 1,000,000 th. share cap. (£143,000); and the *Prussian National Assu. Co.* in Stettin, and the *Azienda Assicuratrice* in Trieste, are desirous of extending their assurances to the lives of men. So that if the Gov. grant permission, we shall have, in 1851, no less than 4 new Proprietary Life Assu. Cos.!

From the Rep. of the *Leipzig* Life for this year (1851) we draw the following details. The new proposals were 304—269 males and 35 females; but the pol. actually issued were only 226 (sexes not defined), insuring £29,857—the average amount on each life being £165. The total number of pol. in force was 4479, of which 501 were on the lives of females. Only about 1 p.c. of the pol. were for other than whole-life ins. The ages at which the greatest number of pol.-holders were then existing were 46-50; but the largest sums were insured upon the lives between 51-5. The average age at entry was 45 years; at death 56 years 8 months—showing a mean duration of membership, in those who died, of 11 years and 8 months. The oldest member was aged 82, the youngest 23; the average sum insured per pol. was £173.

At this date (1851), many, if not most of the then small German States required Foreign Cos. to make a Special Deposit with them as a preliminary to transacting bus. within their limits. This restriction was prob. aimed more especially at the British Offices: which, as a consequence, restricted their direct agencies to the Free Cities of Hamburg and Frankfurt; but these agents had “correspondents” in other parts of Germany. There were also other restrictions in some of these States; imposed under the idea of protecting the public from fraud; but which greatly hampered the progress of bus.

1852.—Herr Rath G. Hopf, Man. of the *Gotha* Life, contributed to the proceedings of the English Inst. of Act. a paper: *On the Life Assu. Cos. of Germany—their Con-*

stitution, Condition, and Prospects; and the substance of this paper is pub. in the *Assu. Mag.* (vol. iii. p. 134). From it we have drawn some of the preceding details of interest. There are other passages which it will be instructive to quote. Thus a note on p. 139 raises a point of importance:

Whether the mean duration of life on the Continent, and especially in *Germany*, is less than in England, cannot, for want of sufficient observations, be ascertained with certainty. It appears, however, that in England *more people attain to a higher age than upon the Continent*. According to the accounts of the Census pub. in the year 1841, there were in E. and W., out of 15,927,867 persons, 1,147,108, or 7·2 p.c. above 60 years of age; and amongst them not less than 249 were of 100 years of age and upwards. By the Census of *Belgium* in 1831, out of 4,000,000, there were only 16 of 100 years of age and upwards. In *Wurtemberg* in 1832, out of 1½ million, there was only 1 of that age; and by the last Census in *Prussia*, at the end of 1849, the number exceeding 60 years of age was scarcely 6 p.c. of the total pop. The actual experience of the *Gotha Bank*, although it is not yet sufficiently extended to give a solution of this question on a positive basis, has up to the present time confirmed the above hypothesis. Notwithstanding that the T. of Mort. used by the Bank shares, for the higher classes of age, above 55 years, an *essentially greater mort. than all the approved English T., still, according to the tenor of the reports of the Bank, the actual mort. at these ages is, up to the present time, on an average greater than was expected.* (See Rep. for 1848, s. 16.) It may indeed be a question to decide what influence the frequent voluntary retirement of healthy members has on the increase of the mort. of the members remaining in the Co.; and whether it is not equal to the profits which the outgoing members yield to the funds of the Co.

He remarks upon the estab. or projection of new Ins. Offices in various parts of Germany—Leipzig, Stettin, Cologne, and Stuttgart—but “what novel and peculiar advantages they offer remains yet to be seen;” and proceeds:

With our native Cos. some of the English Cos. have lately entered into zealous competition, and by means of their agents have taken an active share in the bus. We may mention the *Union*, the *Royal Exchange*, the *Crown*, the *Universal*, the *Globe*, the *Medical*, etc.—of which, the *Globe* and the *Medical* (the latter because it insures unhealthy lives at corresponding higher premiums—a branch of bus. only carried on to a very moderate degree by the German Cos.) seem to be doing the greatest bus. In general the confidence of the public leans to the side of the native Cos., and with reason, for they emulate the foreign Cos. in their security, in the equity of their conditions, and in their honourable and bus.-like character, but excel them in the facility and cheapness with which the settlement of claims may be made; and that in the case of an appeal to law, the public not only understand the German law by which the claim may be supported, but also have the power to enforce the sentence.

It was estimated that the amount insured by the English Cos. in Germany was about one-tenth of that in the native Cos. Herr Hopf adds:

The total bus. of the German Life Assu. Cos. is still very small, compared with the remarkable activity with which this branch of assu. has been developed in England, the number of the assured there being 5 or 6 times, and the amount of assurances effected 18 times, as great. Nevertheless, it is a good beginning; and when we consider that 150 years had elapsed from the formation of the first Life Assurance Co. in England before this satisfactory result was obtained, the success which in Germany has followed the labours of 22 years gives the most encouraging hopes for the future.

The main points in practice among the prominent German Offices were referred to in detail. Many of these have been mentioned in our preceding sketch of the individual offices. In the *Gotha*, *Leipzig*, *Munich*, and *Brunswick* Offices, the last age was taken, if the ins. was effected within 6 months thereafter. In the *Berlin*, *Hanover*, and *Frankfort* Cos. the age at next birthday, as in England, was taken. But the greatest of all the advantages was that in several of the Cos. the prem. terminated at 85, and the pol. became then payable; in others this occurred at age 90; and in a few only it was to continue during the whole of life.

The *Teutonia* Life was founded this year at Leipzig. Also the *Weimar* Life.

The entire statistics of the Life Insurance bus. in Germany at this date were stated to be as follows: No. of Cos. (native) 12; No. of pol.-holders 46,980; sums insured £8,224,429; prem. income £377,628. Claims in the year 876, for £161,975. It was stated that the *Gotha* So. accounted for very nearly one-half of this bus.

1853.—The *Concordia* Life Assu. So. (proprietary) was founded in Cologne, and “Registered under Act of Council of H. M. the King of Prussia, with a subs. capital of 10,000,000 Pr. th. (£1,600,000), in 10,000 shares of 1000 th., of which 20 p.c. was to be paid up. The bus. of the Co. extended to annuities (Tontines), and against loss of life and injury to persons travelling by any kind of conveyance. The several branches other than life will be spoken of under their respective heads. The features of the Life branch were these: The payment of prem. to cease at 85 years; pol. surrendered after being 5 years in force to receive three-fourths of office value. In case of suicide, office value to be paid to family. One thaler charged on each pol. to cover cost of stamps and postage. The following are specimens of the rates charged:

Age.	Single Prems.	Annually.	Age.	Single Prems.	Annually.
10 years	26·62	1·27	40 years	45·52	2·83
20 „	31·14	1·40	50 „	56·20	4·21
30 „	37·30	2·04	60 „	68·30	6·70

There were short-term ins. and endowment ins. The Co. also has a scheme of savings bank or deposit ins.

There was also estab. at Schwerin this year: *Die Mecklenburgische Lebensversicherung und Spar Bank*—Mecklenburg Life Assu. and Savings Bank—confirmed by the Mecklenburg Gov. 31 May, 1853, with a subs. cap. of 100,000 th. in 500 shares of 200 th.—10 p.c. paid up. The object of this Asso. was to become mutual, as soon as its bus. should be self-sustaining. The profits were to be divided into 3 parts:—1. 30 p.c. belonging to the shareholders, to be divided among them in interest and dividends. 2. 10 p.c., forming

a fund of amortization, out of which shares were to be bought back at their nominal value. 3. 60 p.c. to belong to the insured and be divided among them after forming part of the reserve for 5 years. In proportion as the shares were purchased, the first-named 30 p.c. to be added to the per-centage for pol.-holders. The Asso. did not propose to accept more than £450 on one life. The Savings Bank Branch would grant ins. "not depending on life contingencies." There was also a scheme for *funeral expenses*.

1854.—Two new Life Offices were founded in Germany this year—one at *Halle*, the other at *Stuttgart*.

1855.—The new ins. of this year showed a great advance upon those of 1853, viz. 1853, pol. 5558, insuring £939,853; 1855, pol. 9366, for £1,361,711. The total pol. in force at end of 1855 being 61,832, insuring £10,411,547. The average amount insured p. pol. was only £145, and had been gradually decreasing.

In the 2 years 1854–5 the new ins. had increased in number by 45 p.c.; the pol. in force by 19 p.c.; the claims by 30 p.c.; the ins. funds, after payment of claims and expenses, over 15 p.c. In the lists of each of the years now under notice Offices were included belonging to *Austria*, *Hamburg*, etc.

A new Proprietary Life Office was founded at *Darmstadt* this year.

This year also was founded the *Magdeburger Lebens V. G.*—Magdeburg Life Ins. Co.—under the authority of the Prussian Gov. This is a Proprietary Co. with a subs. cap. of 2,000,000 th.; and its bus. was to extend to the ins. of unhealthy as well as healthy lives—viz. *Diseased and Impaired Life Ins.* Some of the features of the Co. were rather remarkable as,—*a.* Claims under Life pol. were to become forfeited if the person insured became resident elsewhere than in Prussia and Germany, *without the permission of the directors.* *b.* If the person insured began a dissipated course of life, or a career dangerous to health; or in case death was caused by non-conjugal pregnancy. *c.* If the person insured be subject to sentence of imprisonment longer than 5 years, or lose all or part of his civil honours; or of death by the hands of the law; or voluntarily injure his health or life. *d.* If the person insured be travelling either by land or sea—such travels being allowed within the civilized parts of Europe, and from one port of Europe to another, with a packet, a steamer, or a man-of-war—and go into countries where epidemical or endemical diseases, war or anarchy, prevail, and expose himself there either to risk of health or life. Endowment ins. were granted on the Tontine plan; and funeral expenses were insured.

1858.—Herr G. Hopf contributed to the *Assu. Mag.* (vol. ix. p. 42) a paper, which was also read before the Inst. of Actuaries—*Life Assu. Cos. of Germany: their Bus. and Position in the Year 1858*. From this paper we have drawn many of the details given under other titles in this art.; reserving only such obs. as are general to the Life Asso. of Germany to be reviewed here:

The number of German Life Ins. Cos. which were in active operation during the year 1858 amounted to 26 [this included 7 Austrian and 1 Hamburg office]. The number of English, French, and Belgian Cos. which have extended their bus. to Germany is as great, if not greater. Of these, the English Cos. especially do a considerable bus. in the large commercial and seaport towns. In the greater part of the States of Germany, the permission of the Gov. is necessary for estab. an agency, and this licence is often refused, or connected with troublesome conditions. *Legislation is in this respect very different in the different German States.* Whilst some Governments, as those in the *Hanseatic Towns*, in the Kingdom of Saxony, and in the *Thuringia Counties*, proceed liberally, and leave free the estab. of agencies of Life Ins., or require only the obs. of formalities easy to be performed, it is very difficult in others to obtain the requisite permission. *And these prohibitive measures extend as much to German Cos. as to Foreign ones.* The severest restrictions are in *Austria*, which has not allowed admission into its States of any Foreign Assu. Co.: whereas Austrian Cos. have been allowed to carry on bus. in many German countries. But the protection afforded by this method of proceeding to the few Life Ins. Cos. in Austria against foreign competition, has by no means brought them into a flourishing condition. On the contrary, we maintain that it has turned rather to their prejudice than to their advantage. . . . Of the 5 older Life Ins. Cos. in Austria, only 2 have hitherto pub. reports of their results; and of these, only one—the *Assicurazioni Generali* of Trieste—has made remarkable but by no means brilliant progress—the operations of the other having remained till now of very limited extent; and we think we are not mistaken in affirming that the affairs of the 3 Cos. which have not yet made a Rep. are still less satisfactory. Likewise, it cannot be denied that the legislation which excludes entirely all foreign Assu. Cos. from Austria, turns also to the prejudice of the Austrian people. From want of competition, they have not been duly made acquainted with the nature, use, and the varied applicability of Life Assu.; and those who are acquainted with it have often felt the want of an inst. which suited their necessities and wishes; and their people have been obliged to disregard an important means of increasing their prosperity.

Herr Hopf had only available statistics for 20 of the 26 Cos. he enumerates—the Austrian Cos. are therefore mostly excluded, and we take the statistics as he presents them. In these Cos. 14,645 persons had entered during 1858, insuring in the aggregate £2,340,298. The total pol. in force at the end of the preceding year had been 80,523, insuring £12,875,128; whereas at the end of this year there were 90,128, insuring £14,383,010—the net increase therefore being 9605 pol., and £1,507,882 in sums insured: this was an increase of 11.71 p.c. on the amount, and 11.93 p.c. in the number of persons. The average amount insured on each life was about £160. The amount paid in claims on 1900 pol. which fell in during the year was £303,438. In the preceding year the deaths had been 1510; the sums insured thereunder £251,545. The aggregate ins. funds reached £2,437,844—being an increase of £179,756, or 8 p.c. in the year.

It is fairly pointed out that every new enterprise in Germany requires time for its development. "It requires considerable time to give the German a clear idea of the nature and manifold utility of Life Assu., and to inspire him with confidence in it; but

when this is once done, the interest in this means of increasing the welfare of families increases from year to year." In proof the following T. of progress during a period of 7 years is given :

Year.	No. of Ins. Offices making returns.	New Ins. in the course of the year.		Ins. existing at end of year.	
		Persons.	Amount.	Persons.	Amount.
1852	12	5,236	£ 841,844	46,980	£ 8,224,130
1853	13	5,558	939,854	50,019	8,750,239
1854	14	5,224	841,459	52,876	9,150,885
1855	18	9,366	1,361,711	61,832	10,411,549
1856	18	12,778	1,633,272	71,169	11,487,487
1857	19	13,601	1,930,649	81,348	12,893,086
1858	20	14,645	2,340,298	90,128	14,383,010

[See the T. given under date 1867, which, while confirming this T. in the main, varies from it in some particulars.]

1860.—There were now 24 Life Ins. Asso. in Germany, wherein about 260,000 persons were insured, to the aggregate amount of upwards of £40,000,000 stg.

Many of the State restrictions, spoken of under date 1851, had now been either entirely removed or much modified, and the ann. volume of new bus. began to show a corresponding expansion. But even yet the founding of new Life Ins. Asso. depended, in nearly all the States, upon the consent of the Local Government. This consent once obtained, the course was comparatively free: for the other States usually gave permission for the Cos. to transact bus. there—*Austria* excepted.

The necessity for agents to obtain direct concessions from the several Governments to transact bus. was now being generally abolished.

1864.—There was pub. an important work by Dr. Wiegand of the *Iduna* Life, of Halle: *The Practice of Life Ins.*, in relation to its general working and agencies.

1866.—This was a very discouraging year for Life Ins. in Germany. The Cos. had to contend on the one hand against war, which much lessened the bulk of the new bus., besides causing lapses: and on the other hand with cholera, which much increased the claims on the existing bus. This increase above the expected claims was estimated at £130,500 paid by 17 Offices. A partial failure of the crops of the year led to an increase in the price of provisions: and so extended some of these discouraging influences into the following year. The lapsed pol. of the year were estimated at 25,251, insuring £3,487,164!

1867.—The bus. of this year, having regard to the incidents named in the last, was exceedingly good; indeed, it was felt that the extra amount of claims which the Life Offices had been called upon to pay by the circumstances of 1866 accounted, in part at least, for the increase of bus. this year. The total ins. of the year effected by 35 German Cos. was: persons insured 78,552 (this did not include any increase to the pol. of persons already insured); sum insured £10,009,360.

Herr Finanzrath Hopf, of Gotha, contributed to the Bremen *Handelsblatt* (No. 881) a paper: *On the Condition and Progress of the German Life Assu. Offices in the Year 1867*, of which an abridged trans. was afterwards given by Mr. G. W. Berridge in the *Assu. Mag.* (vol. xv. p. 55); and from this we draw some details of interest.

Of the 35 Life Ins. Asso. then existing, 20 were located in North Germany, 4 in South Germany, 9 in Austria, and 2 in German Switzerland. Then occurs a passage important to be kept in view in considering the statistics which follow:

Of these Cos. many pub. full and well-arranged accounts, from which the particulars given in the various columns of the T. may be accurately obtained. In the accounts of some Cos., however, the various kinds of assu. undertaken are not separated; but Life, Endowment, Annuity and Tontine bus. are thrown together confusedly—although in unimportant matters the reports are very detailed—as if with the object of preventing an exact insight into their position being obtained. Lastly, a third part, to which the Cos. in Trieste belong, pub. perfectly useless accounts; which do not permit even an approximately correct view of their position and management. The accounts of several Cos. do not appear until 12 months after the close of their financial year: it has therefore been necessary to make general estimates for these Cos., which are based on their earlier accounts and general progress. It is believed that the figures given are pretty near the truth.

It is further explained that small Burial Assurances (those under £15) were excluded, where they could be separated. In some of the Offices these constituted the great bulk of the bus. The following T. is given of the amount of Burial (Funeral) Ins. in the Cos. more particularly referred to:

Lubeck	.....	£5,717	Germania.....	.....	£186,806
Teutonia	.....	181,701	Prussian	.....	1,883
Schwerin	.....	407	Friedrich Wilhelm	.....	13,162
Iduna	.....	400,523	Nordstern	.....	13,405
Magdeburg	.....	88,585			
Thuringia	.....	74,786			£966,775

We may now proceed to produce the results of the larger T., of which we combine two, alike for clearness and economy of space :

Development of Life Ins. in the German Offices from 1852 to 1867.

Year.	No. of Cos.	New bus. in the course of the Year.		No. and Amount in force at the end of the Year.		CLAIMS.	
		Lives.	Amounts.	Lives.	Amounts.	No.	Amounts.
1852	12	5,236	£ 883,936	46,980	£ 8,635,337	...	...
1853	13	5,558	986,846	50,019	9,187,751	...	...
1854	14	5,224	883,532	52,816	9,608,429	...	...
1855	18	9,366	1,429,796	61,832	10,932,126	...	...
1856	18	12,778	1,714,935	71,169	12,061,861	...	...
1857	19	13,601	2,027,181	81,348	13,537,740	...	...
1858	20	14,645	2,457,314	90,128	15,102,165	...	...
1859	20	13,122	2,173,667	101,758	16,570,785	...	...
1860	24	24,730	3,738,750	129,589	20,631,342	2062	350,179
1861	25	35,246	4,280,386	152,121	23,200,012	2366	390,714
1862	26	42,209	5,343,198	183,812	26,491,142	3063	411,491
1863	27	47,368	6,534,585	194,818	30,496,015	3408	513,462
1864	27	55,357	7,597,445	230,394	35,240,962	3852	545,626
1865	30	68,607	8,869,310	280,476	41,642,165	4553	633,373
1866	32	55,981	7,611,455	305,433	45,083,948	6573	904,695
1867	35	78,552	10,009,361	351,851	50,448,333	5921	787,776

The average amount of the pol. issued this year was £143—being an increase of £2 on the previous year.

It was stated that the number of pol. discontinued (lapsed) this year (1867) was very large—larger than in the “war year” 1866. They reached 31,601, insuring £3,909,250. Almost half the new ins. were thus counterbalanced by the lapses. The average percentage of discontinuances over all the Cos. being 5·844 p.c.—ranging from ·825 in the *Gotha*, to 12·622 in the *Anchor* in Vienna. Some of the causes operating to produce these lapses will be considered under *Life Ins.*, *Practice of*, at this date.

The death claims this year were smaller in amount than in the preceding year—the first time such a condition of things is to be noticed in the T.; but this really resulted from the increase of those of 1866, from the causes already noted under that year. The actual diminution was £117,919, or 13·03 p.c. The average amount of each claim paid was £133, being about £10·5 less than in the preceding year.

The amount of prem. income (apart from interest on investments) received from the 351,851 persons whose pol. were in force this year was £2,024,450, giving an average receipt from each person of £5·75, which was rather less than that for 1866 (£5·90). The income of the offices from prem. and interest in 1867 was £2,024,450—being an increase upon 1866 of £221,200, or 12·27 p.c. The increase in the assets during the year had been £625,145, or 10·16 p.c. The cost of management had varied from 4·8 p.c. in the *Gotha* to 40·12 p.c. in the *Basle Co.* The following short T. was designed to show the increase p.c. during 5 years in the following important items :

	1863.	1864.	1865.	1866.	1867.
In the Numbers Insured	15·83	18·26	18·65	8·59	13·20
„ Sums Insured	14·85	15·56	15·32	7·68	11·77
„ Yearly Income	15·29	12·87	14·88	11·58	12·27
„ Claims	24·78	6·26	16·08	42·84	13·03
„ Assets	12·21	9·32	11·83	7·09	10·16

There was an expectation that the German Parl. would speedily introduce a Bill for the regulation of Ins. Asso. upon a basis of uniformity.

The *Germania* was stated to have received 90,266 proposals during the year ending April (1867). The amount proposed being 43,121,473 thalers. A very considerable proportion of this was of the Funeral Ins. character.

Several important works bearing upon Life Ins. were pub. in Germany about this date, among which were the following :

1. *Instructive Essays on Life Assurance*, by Dr. Wiegand, of the *Iduna*, *Treating of the Duties of Agents, and containing Valuable Hints as to how to Obtain Insurance, and the Theory of Insurance.* Halle, 1867.

2. *How to Apply Life Insurance to the Wants of the Masses, and by its means to Organise Schools, Advance Industry, and Benefit Communities*, by Dr. Perche, a School Director. Prague, 1867.

1868.—Two works were pub. in Germany this year, each of which engaged considerable attention. The first of these was by Dr. A. F. Knapp, Director of the Statistical Bureau at Leipsic, and treated of some of the considerations involved in the construction of Mort. T. in quite a novel manner. The other was pub. in Brunswick by Dr. Hermann Scheffler, and a great part of it was devoted to a new mode of working the different problems in Life Ins. We shall have occasion to speak more in detail of each of these works under sub-heading *Mort. T.* In vol. xv. (p. 292) of the *Assu. Mag.* will be found an excellent review of the contents of the last-named work, wherein the author, by way of summing up, says :

Altogether the book, which is copiously supplied with diagrams and T., must be regarded as an important addition to the comparatively few original works on Life Assu. that have appeared in Germany. It may be doubted, however, whether it will find a permanent place among standard books on the subject. . . . On the other hand, we are glad to be able to compliment Dr. Scheffler on the clearness of the notation and style which characterize his book.

This year Mr. Marcus N. Adler read before the Inst. of Actuaries in London a paper : *Insurance Business in Germany* ; of which we propose to furnish a brief abstract here—

What had induced him to take up this subject was the consideration that since the year 1860 no information whatever had been pub. on this subject in England. [The art. we have reviewed under date 1867 had not then appeared in England.] Nothing perhaps was such a sure index of the true progress of a nation in civilization as the provision it makes for the future and against emergencies. To examine the nature of this progress in the case of the German nation, which had made such vast strides of late years, must certainly be interesting. His statistics referred mostly to the time preceding the great political convulsion in Germany in 1866, and by Germany he meant all those provinces in which the German language was spoken. The lecturer then proceeded to show that the habits of the people of Germany were more akin to the principles of assurance than in this country or America, and that, generally speaking, nations of Teutonic origin were more anxious to make provision for their families than those of Latin origin, who preferred to make their investments in tontines, annuities, and endowments, by which they secured their own comfort rather than that of those dependent upon them. In Austria and other States of South Germany the Government, in their paternal solicitude for their subjects, so much interfere in the internal management of ins. cos. that few of them were in a healthy condition. Most of the offices in Germany allowed the policies to be suspended during the continuance of such war. The high commission granted to agents by some companies, amounting in some cases to full 2 p.c. on the amount assured, irrespective of a commission of 5 p.c. on the ann. prem., produced a large amount of new bus. which was naturally of an ephemeral character. The lecturer then proceeded to explain that on account of the mean age of the lives assured having a tendency to become gradually lowered, the per-centage of claims to the amount assured had for some years been actually diminishing. After examining the comparative rates of prem. charged by different Sos., and the average amount assured under each pol., an inquiry was instituted into the mort. experienced by the German Cos. An inspection of the rates of mort. shown by different tables led to the conclusion that, whereas the mort. in Germany under age 55 is about the same as that found to exist in England, it was more unfavourable above that age. Comparing the total amount of life assurance in Germany with that in England, it appeared that approximately £45,000,000 were assured in the former and £350,000,000 in the latter country, and that the yearly income showed in both cases an average of 2½ p.c. to the amount assured.

1869.—A good deal of attention was this year drawn to the question of legislation for Ins. Cos., and for Life Ins. Asso. more particularly. Two Bills were before the Council of the North German Confederation, which we have noticed in some detail under *Legal Requirements*. The suggestions of Herr F. Hopf in respect of Life Ins. legis. will be found in the *Assu. Mag.* (vol. xv. p. 271) under title of : “*Suggestions for Legislation to Regulate the Calculation and Investment of the Reserve in Life Assu. Cos.*”

In the Political Economy Congress held at Mayence this year there was a lively debate on the nature and limits of the credit to be accorded to Life Assu. Cos., and under what restrictions and control they ought to be placed. Some of the speakers maintained that the directors should be made responsible for the entire debts of the Co., but on this important question there was a difference of opinion. The Congress adjourned till next year, after adopting a resolution to the effect that the approbation of the Gov. should not be necessary for the formation of a Joint-Stock Co., because the State is not competent to settle satisfactorily either the question of its opportuneness or that of the confidence to be reposed in it, matters which should be left solely to the intelligence of the public and the increasing knowledge of political economy.

1870.—The effect of the German-Franco War, which commenced in the autumn of the preceding year, and continued during this year, was very apparent upon the bus. of Life Ins., which fell off by nearly one-third alike in number of pol., and in the sums insured—as is shown in the figures given below.

The Editor of the *Rundschau der Versicherungen* gave an interesting view of the effect of different wars on Life Ins. in Germany. The Revolution of 1830 and 1831 took place before the bus. had made much headway. That of 1848 and 1849 produced a marked

falling-off. The Russian war of 1854, and the Italian war of 1859, caused a decided diminution of new business, although Germany took no active part in the struggles. The Prussian and Austrian war of 1866 was disastrous to Life Ins. [see 1866]. It partook of the nature of civil war. A great decline took place in new business, and a revulsion equally great followed, as shown in the following figures :

1865	.....	No. Insured	68,607	.....	Amount	£8,869,310
1866	.....	„	51,981	.....	„	7,611,455
1867	.....	„	78,552	.....	„	10,009,360

None of the offices take war risks, and all such remained suspended during the conflict ; but the mortality of 1866 was heavy, owing to distress and contagious diseases, which followed in the wake of the armies.

The year 1870 was even more disastrous, as will be seen from the following figures :

1868	.....	No. Insured	88,346	.....	Amount	£11,025,520
1869	.....	„	95,696	.....	„	12,278,431
1870	.....	„	66,576	.....	„	8,991,688

A calculation (purporting to be based upon the best statistics available at this date) by a French Journalist estimated the amount of Life Ins. in force in Germany (North and South, and taking the combined pop. at 50 millions) as being less than £1 5s. per head ; while in France he made it about £1 15s. ; in the United States over £8 ; and in England £15. We think the amount for Germany was decidedly underrated.

Regarding the financial position of the principal L. Offices in Germany, see T. on p. 301.

1871.—At the ann. meeting of the German Life Ins. Institute held this year, at which 15 out of the 22 Cos. whose managers constitute the Asso. were represented, it was resolved that a petition be presented to the Chancellor of the Empire, with respect to certain alterations required in the laws relating to Life Assu. Another subject discussed was the experience of the Cos. in reference to certain occupations, etc., and it was resolved : 1. To submit to each member of the Asso. a list of questions to be replied to within a stated period. 2. To call to the aid of the Asso., in the examination of the information thus obtained, physicians and statisticians. It was decided, subject to conditions, to estab. a technical journal ; also that a pressing invitation should be sent to the members, requesting them to furnish to the *Collegium für Lebens-Versicherungs Wissenschaft*, all the materials at their disposal for the elaboration of a German Table of Mortality.

At the next meeting of the Asso. one of the questions discussed was the offering a prize for the best work upon the dangers of the various occupations followed in Germany, and upon the mortality among those following them.

Same year there was founded in Berlin the *Gegenseitige Lebens, Invaliditäts, und Unfall Ver. Ges. "Prometheus."* It is a Mut. So. with a guarantee cap. of M. 600,000, in 1000 shares of M. 600. The paid-up portion is 172,500. The results of the Accident Branch of the bus. we have given for the first 3 years under sub-heading *Accident Ins.* The total debit bal. on the first year's trans. was M. 211,632—carried to account of "cost of organization."

1872.—The failure this year of the *European Life*, which had at one period transacted (through some of its amalgamated Cos.) a considerable bus. in Germany, following so soon upon that of the *Albert* (wherein German interests were very largely affected), caused great distrust in British Ins. Asso. for the moment, and considerably affected the amount of bus. in their several German agencies.

A Mut. Ins. Asso. was this year founded in Berlin specially for the Ins. of Officers in the Army and Navy—*Lebensversich.-Anstalt für die Armee und Marine*. [LIFE INS. PRACTICE.]

It has become customary in Germany to associate Life and Accident Ins. in one Co. (not under one contract)—although the accounts of each branch of bus. are required to be kept distinct. The earliest German Life Asso. undertaking the bus. of Accident Ins. were the *Concordia*, and the *Thuringia*, followed by the *Magdeburger* [founded 1844], and the *Prometheus*, 1871.

This year (1872) there was founded in Breslau the *Schleswische Lebensversich. Actien Ges.*—a proprietary Co. with a cap. of M 3,000,000, for carrying on the bus. of Life and Accident Ins. The progress of the latter branch we have already given under *Accident Ins.*

1873.—This was an important year in respect to Life Ins. in Germany. The amount of new bus. effected was greater than it had ever been before, and we believe also greater than it has been since. The returns show 98,692 new pol. issued, insuring 101,052,295 thalers (equal to £15,157,834). These figures embrace, however, the operations of 51 Life Offices, but only about three-fifths of these belong to modern Germany, i.e. The North-German Confederation : an analysis of the bus. therefore becomes necessary :

32 German Cos.	issued	62,855	policies, insuring	69,533,406	thalers
17 German-Austrian Cos.	„	33,068	„ „	27,617,704	„
2 German-Swiss Cos.	„	2,769	„ „	3,901,185	„

Totals	„	98,692		101,052,295	„
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THE FOLLOWING TABLE SHOWS THE FINANCIAL POSITION OF THE 35 PRINCIPAL LIFE OFFICES AT THIS DATE (1870):

Etab.	Name of Office.	Insurances Existing at Beginning of the Year.	New Ins.	Ins. Existing at End of Year.	Income.	Claims Paid.	Expenses of Management.		Insurance Fund.	
							Actual.	Per Cent. of Income.	Amount.	Surplus.
1827	Gotha	£ 9,297,930	£ 733,371	£ 9,292,557	£ 452,865	£ 199,300	£ 21,705	£ 7.9	£ 2,461,380	£ 476,697
1828	Lubeck	£ 3,106,912	£ 254,477	£ 3,141,106	£ 177,744	£ 38,216	£ 10,143	£ 13.81	£ 464,541	£ 22,310
1830	Leipzig	£ 2,513,785	£ 371,886	£ 2,710,957	£ 177,616	£ 47,972	£ 11,662	£ 9.91	£ 486,174	£ 80,235
1830	Hanover	£ 499,571	£ 32,200	£ 430,672	£ 17,535	£ 1,086	£ 21,099	£ 12.93	£ 72,919	£ 6,089
1836	Berlin	£ 2,356,876	£ 257,106	£ 2,438,934	£ 176,535	£ 16,837	£ 12,145	£ 10.56	£ 640,862	£ 90,255
1836	Munich	£ 456,208	£ 20,838	£ 457,617	£ 17,949	£ 1,902	£ 16,142	£ 7.2	£ 94,841	£ 11,577
1839	Janus (Vienna)	£ 732,883	£ 266,246	£ 908,477	£ 34,954	£ 10,142	£ 7.2	£ 7.2	£ 126,612	£ 26,397
1842	Brunswick	£ 132,245	£ 3,486	£ 132,245	£ 4,459	£ 2,978	£ 5.08	£ 11.29	£ 55,689	£ 9,101
1844	Frankfort	£ 1,000,000	£ 139,000	£ 1,056,143	£ 45,703	£ 29,944	£ 6,866	£ 9.44	£ 86,373	£ 13,403
1847	Janus (Hamburg)	£ 1,905,813	£ 214,286	£ 1,856,821	£ 72,772	£ 33,814	£ 10,943	£ 9.44	£ 260,063	£ 13,403
1852	Teutonia	£ 1,472,129	£ 239,167	£ 1,664,701	£ 44,772	£ 23,570	£ 5,138	£ 16.46	£ 99,039	£ 4,128
1852	Donau	£ 684,042	£ 143,839	£ 732,748	£ 31,709	£ 23,086	£ 5,138	£ 16.46	£ 74,444	£ 4,128
1853	Concordia	£ 3,796,486	£ 341,634	£ 3,923,500	£ 131,429	£ 6,930	£ 10,943	£ 7.2	£ 698,359	£ 143,311
1853	Schwerin	£ 283,014	£ 40,171	£ 295,243	£ 10,451	£ 4,957	£ 7.2	£ 16.37	£ 43,683	£ 7,539
1854	Iduna	£ 1,159,759	£ 165,139	£ 1,179,711	£ 65,856	£ 34,463	£ 10,780	£ 16.37	£ 181,147	£ 12,956
1854	Stuttgart	£ 2,459,083	£ 308,615	£ 2,686,695	£ 112,794	£ 39,599	£ 7.2	£ 28.073	£ 412,186	£ 105,101
1855	Darmstadt Annu. Co.	£ 133,791	£ 12,233	£ 140,081	£ 5,931	£ 2,083	£ 7.2	£ 15.43	£ 279,225	£ 3,877
1856	Magdeburg	£ 1,784,050	£ 102,981	£ 1,815,592	£ 79,302	£ 21,043	£ 6,857	£ 13.91	£ 179,225	£ 9,512
1856	Thuringa	£ 1,542,578	£ 125,580	£ 1,529,686	£ 49,304	£ 20,788	£ 6,857	£ 12.73	£ 131,862	£ 4,959
1857	Germania	£ 7,018,259	£ 690,626	£ 6,852,955	£ 250,435	£ 92,546	£ 31,800	£ 6.26	£ 635,249	£ 22,678
1857	Zürich	£ 1,499,351	£ 175,383	£ 1,492,911	£ 52,286	£ 23,689	£ 6,571	£ 18.75	£ 137,196	£ 30,329
1857	Providentia	£ 1,018,182	£ 116,972	£ 1,025,997	£ 35,053	£ 13,474	£ 6,571	£ 18.75	£ 94,937	£ 7,539
1858	Anker	£ 2,295,354	£ 312,328	£ 2,401,350	£ 80,000	£ 40,622	£ 5,431	£ 19.36	£ 247,116	£ 6,971
1861	Railway	£ 744,219	£ 159,993	£ 780,361	£ 28,039	£ 8,155	£ 5,431	£ 19.36	£ 67,528	£ 7,694
1861	Stuttgart Annu.	£ 374,106	£ 573,641	£ 780,361	£ 18,113	£ 4,405	£ 7.2	£ 24.66	£ 39,475	£ 6,856
1864	Carlsruhe	£ 548,257	£ 234,040	£ 718,911	£ 21,138	£ 7,812	£ 7.2	£ 24.66	£ 40,799	£ 5,564
1865	Prussian	£ 498,041	£ 308,143	£ 780,361	£ 30,708	£ 5,467	£ 7.2	£ 24.66	£ 31,734	£ 2,169
1865	Basle	£ 1,712,963	£ 342,857	£ 1,850,666	£ 65,280	£ 20,577	£ 11,484	£ 17.38	£ 104,414	£ 7,875
1866	Friedrich Wilhelm	£ 1,195,797	£ 210,449	£ 1,215,356	£ 71,271	£ 13,059	£ 15,086	£ 21.17	£ 69,325	£ 3,847
1866	Patria	£ 263,991	£ 127,169	£ 316,585	£ 13,560	£ 5,132	£ 4,264	£ 31.44	£ 20,832	£ 1,607
1867	North German	£ 652,511	£ 108,061	£ 688,409	£ 20,243	£ 4,979	£ 5,551	£ 18.08	£ 55,234	£ 3,825
1867	Bremen	£ 26,495	£ 19,529	£ 42,692	£ 1,457	£ 219	£ 3.8	£ 22.56	£ 1,761	£ 997
1868	Potsdam	£ 262,099	£ 91,655	£ 273,520	£ 10,806	£ 3,688	£ 4,873	£ 22.56	£ 1,761	£ 997
1868	Europa	£ 171,167	£ 186,572	£ 273,520	£ 7,331	£ 3,688	£ 4,873	£ 22.56	£ 1,761	£ 997
1869	Various Offices together	£ 7,571,429	£ 200,000	£ 7,857,143	£ 5,571	£ 295	£ 5,065	£ 22.56	£ 6,597	£ 222
	Totals	£ 61,012,744	£ 8,563,514	£ 63,592,169	£ 2,592,983	£ 1,041,493	£ 135,714	£ 7.2	£ 742,857	£ 7,875

* Approximate.

A further subdivision may be made between the Proprietary and the Mutual Offices as follows :

31 *Proprietary* Cos.: 59,164 lives = 59·95 p.c.; sums ins. 62,342,147 th. = 61·69 p.c.
20 *Mutual* Asso. 39,528 lives = 40·05 p.c.; „ 38,710,148 th. = 38·31 p.c.

The effect of the operations of the bus. of the year upon the volume of life bus. in force will be shown in the following figures :

	Persons.	Amount in Thalers.	Average each person.
At the beginning of the year 1873 there were ins.	593,770	550,058,615	926·4
New policies during the year	98,692	101,052,295	1023·9
Totals	692,462	651,110,910	940·3

The figures were reduced by two concurrent causes, viz. (a) Deaths; (b) Withdrawals :

(a) 11,316 persons, 9,318,694 th., including re-insurances.

(b) 35,157 „ 30,324,069 th.

Totals	46,473	39,642,763	853
Position at end of year	645,989	611,468,147	946·0
Distributed as follows :			

In 31 *Proprietary* Cos. 416,051 = 64·41 p.c., and 382,520,608 th. = 62·56 p.c.

In 20 *Mutual* Offices 229,938 = 35·59 p.c., and 228,947,539 th. = 37·44 p.c.

Giving (as above) 645,989 persons; and 611,468,147 th.

On comparing the position at the end, with the beginning, of the year, it is seen that the numbers insured increased to the extent of 52,219 persons, or 8·79 p.c.; and the amount insured received an add. of 61,409,532 th., or 11·16 p.c.; consequently there was a more rapid increase in the sum insured than in the number of persons insured.

The average sum insured on each life rose from 926·4 thalers to 946·6 th. In the *Proprietary* Cos. this increase was caused by accession of fresh insurances for large amounts, and the falling away of the small amounts which had been for several previous years in the ascendancy. This feature leads to the obvious conclusion that Life Ins. had been adopted by a better class of people—thriving traders, and financial operators probably.

A comparison of the figures of this year with the statistics of the growth of Life Ins. in former years will be instructive. During the 10 years 1854–63 the Cos. increased 14 in number, the persons insured increased by 144,799, and the amount insured by 142,055,091 thalers. But in the 10 years 1864–73 the increase was as follows :

The number of Cos. by 24; the number of persons insured by 451,171; and the amount insured by 408,161,386 thalers. The average rate of increase p.a. during the first period was, as regards the number of persons, 14·26; as to amount, 11·71 p.c.; in the second period it was 11·43 p.c. and 10·84 p.c. respectively. The following abstract amplifies the means of comparison :

Period.	No. of Cos. at end of Period.	New Business during the Decennium.		Position at end of Decennium.		Average Increase per annum.	
		Persons.	Thalers.	Persons.	Thalers.	Persons.	Amount insured.
1854–63	27	218,289	203,888,972	144,799	142,055,091	14·26	11·71
1864–73	51	770,237	697,151,266	451,171	408,161,386	11·43	10·84

The proportion of *Lapsed* pol. among the German Life Cos. proper was just the same during this as during the preceding year (1872), viz. 3·33 p.c. This was regarded on the whole as favourable. The rate of lapses was, however, greater in *Austria* and in *German Switzerland*—bringing up the per-centage in the entire 51 Offices to 4·58 p.c. in 1873. In 1872 it was 4·07 p.c. The total number of pol. lapsed in 1873 was 35,157, under which 30,324,069 th. had been insured.

The ann. income of the 51 Cos. amounted in 1873 to 25,508,180 thalers. As compared with the previous year, this showed an increase of 2,590,984, or 11·31 p.c. Referring to the 32 Cos. of the German Empire exclusively, the increase of income was 18,454,478 th., giving an increase of 1,528,921 th. or 9·03 p.c. on the previous year.

The *Claims by Death* paid by the 51 Offices in the year were in number 11,316, in amount 9,318,694 th. This gave an average of 823·5 th. per claim, while at the end of the year the average amount insured under each pol. amounted to 946·6. The amount of claims was 1·43 p.c. of the existing insurances, and 36·55 p.c. of the effective ann. income of prems. and interest; against 1·46 p.c. and 36·76 p.c. respectively in the preceding year. The claims here enumerated included all sums by way of re-insurance. Whether the mort. experienced was within the limits indicated by the Mort. T. in use by the several Offices did not appear as to the whole of them. As to 20 it was said that the mort. was

favourable, and the claims therein were less by an aggregate of 793,452 th. than was to be expected. As to 18 Offices, on the other hand, the actual mort. was greater than the expected mort.—to an aggregate extent of 322,822 th. This reduced the net results from this source to 470,360 th.—subject to any variations the Cos. not specifying their results might produce. In 1872 the mort. results were under the estimate (as to such offices as returned) by 553,903 th.; whilst in 1871, in consequence mainly of the smallpox epidemic, the actual mort. had exceeded that expected by 296,769 th.

The financial position of the aggregate Proprietary and the aggregate Mutual Offices respectively was as follows :

No. of Cos.	Proprietors' and Guarantee Capital respectively.	Premium Reserve.	Proportion p.c. to the Amount Insured.	Net Surplus.	Total Invested Funds.	Proportion p.c. to the Sums Insured
31 Proprietary Companies }	Thalers. 5,072,378	Thalers. 48,186,466	11'61	Thalers. 4,638,153	Thalers. 108,209,497	26'87
20 Mutual Offices }	690,267	30,126,831	12'42	7,543,745	41,755,917	17'21
51 Total	51,414,048	78,313,297	11'91	12,181,898	149,965,414	22'80

The net increase in the prem. reserve of the 31 Proprietary Cos. during the year was 4,820,417 th., being 30'52 p.c. on the prem. income; the net increase in 20 Mut. Offices was 2,802,889 th., being 28'86 on the prem. income. The larger amount of "net surplus" in the Mut. Offices is explained by the higher prem. which the insured pay to share in the surplus; and by the add. fact that the ann. profit earned by the Mut. Asso. is kept undivided, in conformity with legal enactment, for a longer period of years than in the Proprietary Cos. Over the whole 51 Life Offices the prem. reserve is seen to be 11'91 p.c. on the sum insured. The reserve is necessarily larger in the old than in the new Offices.

With respect to the *Investments* of the German Life Offices, it appeared that the North German Cos. had 52'1 p.c. of their entire assets in mortgages secured on reversions; the German-Swiss Offices 21'7 p.c. invested in like manner; the Austrian only 10'9 p.c. In stocks and shares the proportions were respectively 8'1 p.c., 12'7, and 27'4 p.c. In real property 1'7, 0'5, and 16'3 p.c. respectively. On the whole, the investments were regarded as satisfactory.

The *Expenses of Management* of the 32 German Offices were 11'15 on the ann. income, or 4'56 p.c. on the amount insured. In the German Swiss Cos. the per-centages were 13'90, and 5'39 respectively; in the German Austrian Cos. 21'50 and 8'10; giving over the whole bus. 13'90, and 5'39 respectively.

During this year (1873) there were estab. 6 new Life Offices, viz. the *Vesta*; *Mutual Life Ins. Bank* of Posen; *National Mutual Life Ins. Co.* of Berlin; *Saxony Life Ins.* and *Savings Bank* at Dresden; *European Life Ins.* and *Annu. Bank* at Stuttgart; *Magdeburg General Ins. Joint-Stock Co.* at Magdeburg; *Antropus Life Ins. Co.* at Leipzig.

The progress made by the Life Offices this year is all the more remarkable when viewed in the light of the fact that the commercial interests suffered considerably from the reaction which followed the wild speculation of the preceding year. It was thought that many, in consequence, saw the necessity of availing themselves of the steady certainty attending Life Ins. The appearance of Asiatic Cholera, which became epidemic in many parts of Germany this year, prob. operated as a further stimulus to Life Ins.

The following will furnish a continuation of the T. given under date 1867, except that we have no means of adding the amounts paid in claims during the several years :

Year.	No. of Cos.	New Bus. during the Year.		Position at the End of the Year.		Increase Per Cent. as regards	
		Persons.	Thalers.	Persons.	Thalers.	Persons.	Amounts Insured.
1868	36	88,346	73,503,467	400,841	378,697,688	13'75	12'32
1869	39	95,696	81,856,206	456,044	426,703,174	14'16	12'35
1870	41	66,516	59,944,595	474,074	445,845,183	3'80	4'39
1871	42	73,722	67,859,482	515,050	478,033,822	6'57	6'99
1872	44	88,768	85,684,745	595,142	546,761,331	8'57	10'86
1873	51	98,692	101,052,295	645,989	611,468,147	8'79	11'16

1874.—Dr. A. Oldendorff, of Berlin, drew the attention of the German So. for Public Sanitary Administration to the defective measures then existing for ascertaining the causes of deaths; and also pointed out the adverse consequences resulting therefrom to Life Offices, and other Provident Institutions. This paper we shall review under sec. *Vital Statistics* of this art., sub-sec. *Deaths, Causes of.*

Building Sos. were extensively formed in Germany during this and the preceding year; and Life Ins. was applied to protect their financial operations in the event of the premature death of their members, as it had long been here.

1875.—The general depression of trade in Germany at this period was found to have a very depressing effect upon the bus. of Life Ins. Whereas the progress of the Life Insurance Cos. during the decade 1855–64 had been—in regard to pol. in force at the beginning and end of the decade respectively—15·68 p.c.; it was for the decade 1865–74 but 9·12 p.c. The aggregate bus. of this year as against the preceding compared as follows: In 1874 there were in force 740,752 pol., insuring M. 2,138,720,993; in 1875, in force 702,484 pol., insuring M. 1,983,869,924.

The excellent publication of Dr. A. Emminghaus, jun., Man. of the *Gotha Life*, on the effect of Suicide upon Life Ins., pub. this year, will be noticed under *Life Ins., Practice of* (Suicide).

In a Supplement to the *Berliner Borsen-Zeitung* for this year appeared a most able review of the progress of Life Ins. in Germany, mainly based upon the returns of 1873, of which we have already given a full abstract. We draw further from the art. the following passages of a general character:

We hope that we should have been able to affirm in our Rep. this year that the German Ins. Law rested upon a rational basis, and admitted the free and safe development of this bus., has again been disappointed. We can only repeat again to-day our urgent entreaty to the authorities to remove speedily, by the production of an ins. law, those fetters which confine the natural development of a bus. so highly important to the moral and social welfare of the people. We trust that after the mature reflection, which doubtless has been bestowed upon this subject by the authorities, the decision has been arrived at, that in order to effect its purpose, the projected ins. law must not only do away with the obligation of a concession, but likewise all interference on the part of the State in the conduct of their bus. by the Offices, and limit itself to making regulations by which the individual Offices shall be compelled to lay before the public every year all important details respecting the Co.'s position, and that so clearly, that the public themselves may be able to form an opinion with regard to the solidity of any Co.

The law which sanctioned the admission of foreign Ins. Cos. into Austria was a measure full of importance both to Life Assn. Cos. in the German Empire and to those in German-Austria. It occasioned a competition which had hitherto by artificial means been prevented from touching Austrian Cos., but which must gradually become an element of considerable influence in the development of an Ins. business in Austria; and it was thereby placed in the power of Cos. in the German Empire to commence business operations in a new and large field.

It was thought that the progress of the German Life Cos. in Austria would be slow, mainly on account of the higher rate of expenditure which prevailed there in obtaining new bus. Under date 1873 we have shown the difference then prevailing under this head. The writer continues:

These figures are even too low for the Austrian Cos., because it is a practice of the greater part of them to place as an asset in their balance-sheet, under the heading "commuted commission" paid for obtaining bus., and not to charge it to the expenses of management for the current year. Properly therefore the expenses of management of the Austrian Cos. ought to be increased by this amount of the commuted commission, which is represented as ostensibly an asset. This expenditure is too high, and the German Cos. cannot and will not, unless they wish to expose the success of their bus. to considerable hazard, expend in Austria as much for the acquisition of new business as the home Cos. do, and for which they (the German Cos.) are not covered in their theoretical estimate of income. Cos. of the German Empire consequently can and will endeavour, only slowly and quietly, to estab. bus. in Austria, and should not reckon upon achieving rapid and great results there. At the same time we are convinced that by the German Cos. taking part in Austrian Life Assn. bus., beneficial results will follow as regards the Cos. there; that in Austria itself, and by Austrian Cos., the extravagant expenditure for the acquisition of fresh bus., to which they have hitherto been so much addicted, will be reduced within proper bounds.

After reviewing the new Ins. Asso. which had been formed in 1873, the writer proceeds:

It is, however, a matter that calls for careful consideration, that latterly, especially in the domain of Life Insurance, new Mutual Cos. have been formed with very moderate guarantee funds. We would advise caution in proceeding any further in this direction. To bring out a new Life Assn. Co. under present circumstances is difficult, and involves a great sacrifice—even of money. The moderate guarantee funds are soon expended, as things now are, in organizing a new Life Ins. Co.; and for a Mut. Co. to acquire a large connexion amongst the public is very difficult, from the competition of the old and tried Mut. and Proprietary Offices. In face of this difficulty there is a temptation for young Mutual Offices to force the rapid formation of a large bus., by expending more in the acquisition of this bus. than the Co. have allowed for in the computation of their premis.

An excellent translation of this able article will be found in the *Review Almanack* for 1876, p. 136.

The following T. showing the progress of 39 of the more prominent German Life Offices at three distinct periods, the last terminating at the end of the year, we draw from Wallmann's *Versicherungs-Zeitschrift* (see Table on p. 305):

1876.—Prof. Karl Heym, of Leipzig, one of the most distinguished writers in Germany on Life Ins. topics [see sub-heading *Friendly Sos.* 1855], in an art. in the *Deutsche Vers. Zeitung* this year, offers the following instructive observations:

The negligence of the public with regard to Life Ins. is also far too great. Of the whole pop. 35 per cent. are between 0 and 19; 52 between 20 and 59; 13 between 60 and 100 years of age. So far as age is concerned, about half the whole pop. are fit subjects for ins. Supposing that one-fifth of this portion are non-insurable from being unsound, there still remain 40 p.c. of the pop. in all respects qualified for ins. The whole pop. of the German Empire, Austria, and Switzerland comprises about 50 million inhabitants, of whom it appears by the foregoing considerations that at least 20 millions are suitable for ins. What is the number of those actually insured?

According to the present state of the German Life Ins. Cos. at their rate of progress, it may be

Year when Organized.	Name of Co.	1855.		1865.		1875.		Average Amount of Ins. per Pol.		
		No. of Pol.	Amount of Ins.	No. of Pol.	Amount of Ins.	No. of Pol.	Amount of Ins.	1855.	1865.	1875.
1827	Gotha	18,858	Thalers. 29,894,600	28,493	Thalers. 50,159,000	44,644	Thalers. 89,708,500	Thalers. 1,585	Thalers. 1,760	Thalers. 2,009
1828	Deutsche in Lübeck	3,239	4,766,673	19,776	16,173,283	30,748	31,504,930	1,472	818	1,016
1830	Leipziger	4,609	5,381,000	8,639	9,802,000	22,140	31,038,150	1,144	1,109	1,402
1836	Hannoversche	2,923	1,727,100	3,365	2,347,100	9,515	7,308,200	591	697	708
1836	Berlinische	7,701	8,980,500	10,110	12,843,650	16,299	24,891,101	1,166	1,270	1,643
1836	Bayer. Hypotheken- und Wechsel-Bank	1,920	1,416,343	3,370	2,900,000	5,043	4,891,471	738	806	973
1842	Braunschweiger	844	449,700	1,452	888,353	1,708	986,583	533	612	549
1844	Frankfurter	997	1,343,095	3,536	4,924,009	9,363	11,411,874	1,302	1,347	1,210
1847	Janus	3,527	3,050,460	13,410	10,932,610	18,346	15,169,033	865	815	899
1852	Teutonia	386	273,312	5,425	2,753,256	30,044	15,174,941	708	508	505
1853	Concordia	400	833,000	10,700	18,870,467	31,333	39,058,038	2,083	1,764	1,831
1853	Stuttgarter Lebensversicherungs- und Sparbank	39	43,500	544	862,900	2,694	3,038,533	1,115	1,558	1,104
1854	Iduna	944	690,300	6,862	4,378,414	17,688	11,393,400	731	638	639
1855	Darmstädter Renten-Anstalt	859	877,657	6,361	8,682,200	20,576	29,331,962	1,022	1,359	1,435
1855	Magdeburger	...	...	1,094	843,960	2,875	1,847,307	...	498	642
1856	Thuringia	...	...	8,598	7,754,299	29,707	17,153,057	...	902	591
1857	Germania	...	...	8,684	8,955,757	12,721	11,894,849	...	1,031	913
1857	Providentia	...	...	50,904	35,149,463	92,194	61,028,671	...	690	678
1861	Victoria (Allg. Eisenbahn)	...	...	3,877	4,545,895	9,751	11,826,866	...	1,173	1,173
1861	Stuttgarter Renten-Anstalt	...	...	3,716	3,077,400	10,092	9,431,033	...	828	935
1861	Gegenseitigkeit	...	...	864	664,546	7,462	6,931,473	...	827	791
1864	Carlsruher Versorgungs-Anstalt	...	...	...	...	7,462	838,575	...	...	116
1865	Preussische	...	...	...	...	9,849	11,504,659	...	...	1,171
1866	Friedrich Wilhelm	...	...	...	...	8,685	6,889,575	...	...	812
1867	Nordstern	...	...	...	...	12,227	11,781,068	...	...	1,017
1867	Bremer	...	...	...	...	7,306	8,100,231	...	...	1,121
1868	Norddeutsche in Berlin	...	...	...	...	5,824	2,876,703	...	...	494
1868	Deutsche in Potsdam	...	...	...	...	5,355	3,494,640	...	...	653
1868	Prometheus	...	...	...	...	24,331	11,350,000	...	...	483
1871	Vaterländische	...	...	...	...	1,376	1,093,050	...	...	795
1872	Armee und Marine	...	...	...	...	1,372	1,897,033	...	...	1,383
1872	Schlesische	...	...	...	...	2,874	1,682,200	...	...	593
1873	Vesta in Posen	...	...	...	...	1,475	1,497,163	...	...	1,104
1873	Nationale	...	...	...	...	997	911,500	...	...	914
1873	Sächsische	...	...	...	...	808	550,833	...	...	640
1873	Magdeburger Allgem.	...	...	...	...	808	695,266	...	...	860
1873	Atropos	...	...	...	...	600	824,215	...	...	1,323
1873	Hamburger Lebens u. Unfallvers.-Bank	...	...	...	...	8,428	392,797	...	...	466
1874	...	...	...	...	...	?	1,280,978	...	...	?

estimated that at the close of the present year the number of persons insured in those Cos. will be something less than 800,000. To this may be added 200,000 for persons insured with the French, Belgian, English, and American Cos. doing business in Germany, and this is a large estimate. The whole number insured, including the small insurances for burial money, will then be in the neighbourhood of a million.

In Germany, Austria, and Switzerland, therefore, there are not at the outside more than a twentieth part insured of those who are capable of ins. This is not a very brilliant result, even when it is remembered that Life Ins. has not been in existence in Germany for 50 years.

1877.—The total number of Life Offices regarded as of German origin in existence this year was 49, viz. 35 in Germany proper; 12 in Austria; and 2 in German Switzerland. The total number of pol. issued by these Cos. during the year was 77,640, insuring M. 284,540,392. The claims paid during the year amounted to M. 33,405,411.

The total pol. in force (*i.e.* persons insured) in these Cos. at the end of the year was 753,409, for a total of M. 2,337,812,079. The 6 offices carrying the largest sums insured are the following: *Gotha*, insuring M. 328,011,800; *Germania* (Stettin), M. 201,298,748; *Concordia* (Cologne), M. 132,883,123; *Life Ins. Co. of Leipzig*, M. 128,997,900; *Stuttgardt* Ins. Co., M. 121,052,599; *German Life Ins. Co.* (Lubeck), M. 110,989,084.

The pressure of the hard times is stated to be felt very severely by the Life Offices: hence the small progress made in relation to the bus. of 1876; many of the Cos. had in fact made no progress at all during the year.

The failure of several Life Offices, notably the *Saxon Life Ins.* and *Savings Bank*, founded in Dresden in 1873 (and which had in force at the end of 1876 some 1464 pol. insuring M. 3,640,000); of the *Central German Mut. Life and Accident Ins. Co.*, also of Dresden, and only little more than a year old; and the *Fortuna* of the same city, quite a young concern; but more notable than any, of the *North German Mut. Life Ins. Bank*, founded in 1868, and having at the end of 1876 no less than 5828 pol., insuring M. 11,432,559 [it had lost M. 378,000 of its funds, and the Prussian Minister of the Interior ordered its dissolution],—operated very much against the progress of Life Ins. in Germany.

Only 1 new Life Office was organized during the year—the *Allgemeine Lebensversicherungs-Anstalt zu Leipzig* (Universal Life Assu. Co. of Leipzig). See *Life Ins. Practice*, "Impaired Lives."

The following are the details of the share cap. of some of the leading Proprietary Life Ins. Cos. of Germany:

Date of Estab.	Title of Co.	Capital.	No. of Shares.	Amount Paid.	Quotation.
1828	Deutsche	M. C. 1,275,000	425	300	—
1845	Frankfurter	Fl. 3,000,000	6,000	50	1,072
1848	Janus	M. 1,500,000	1,000	500	—
1852	Teutonia	" 1,745,000	582	750	—
1853	Concordia	" 30,000,000	10,000	600	1,950
1856	Berlinische	" 3,000,000	1,000	600	2,115
1857	Magdeburger	" 6,000,000	4,000	300	280
1858	Germania	" 9,000,000	6,000	300	515
1865	Preussische	" 3,000,000	3,000	300	250
1866	Friedrich Wilhelm ...	" 3,000,000	2,000	300	—
1867	Nordstern	" 3,750,000	1,250	600	840
1872	Vaterländische	" 9,000,000	3,000	600	—
1873	Schlesische	" 3,000,000	200	300	480

The dividends paid by some of these Cos. to their stock-holders are very considerable.

1878.—At the close of this year the total number of Life Ins. Asso. returned as existing in the (North) German Empire was 45—viz. 27 Mut. and 18 Proprietary. The only Co. returned as founded during the year is the *Allgemeine L.-B.-A.* (für Abgelehute) in Leipzig, a Mut. Asso. No other Mut. Life Asso. founded later than 1875 appeared to be in existence; and the latest Proprietary Co. then existing was attributed to 1874.

Life Ins., Practice of.—The practice of Life Ins. in Germany has on the whole followed very much on the same lines as that in England. The *Gotha* Office took the lead there, very much as the *Equitable* So. at one period took the lead here. Later competition has led to some divergences there as here; but on the whole the practice in Germany may be regarded as conservative. The combination of the managers of the leading offices there has been productive of much good, and in this regard Germany has certainly made one step in advance of England.

Commissions.—We have shown under sub-heading *Life Insurance*, that considerable advancement occurred in the bus. about the year 1867. This advancement was accompanied by a considerable increase in the rate of agency commission. Upon this point Herr Finanzrath Hopf, of Gotha, offered the following sagacious obs. in his paper in the Bremen *Handelsblatt*, already reviewed:

It has been found that assu. obtained by the payment of a high rate of commuted commission soon lapse; and an increase of bus. of such a character is hardly a matter for congratulation; for the cost of management is in some instances so greatly increased, that the profit on the earlier prems. (assuming them to be of moderate amount) no longer suffices to meet it; and consequently a charge

on the future is created. Some offices treat the amount of commuted commissions as a charge to be spread over several years, which is at least an open course, as the balance sheet arranged on this principle shows the amount of such commission, which still remains to be written off. Others, however, conceal its amount by deducting it from the reserve: the latter being reduced by various ingenious devices, such as tampering with the net prem., or valuing the pol. at a high rate of interest, etc.—a most perilous course when carried to an extreme.

The rate of commission for obtaining *new bus.* varies from 1 to 2 p.c. on the sum insured; while the renewal commission varies from 2 to 5 p.c., which latter it very rarely exceeds.

Declined Lives.—The practice which prevails in Germany regarding these is excellent, although perhaps a little too complicated. On a life being declined by any Office belonging to the Ins. Institute, full particulars of the case are sent to one of the Offices agreed upon; and that Office causes a card to be printed, and forthwith sent to each of the associated managers. The keeping a large number of cards arranged in alphabetical order of course involves considerable trouble; but the benefits resulting are very great.

Impaired Lives.—This branch of bus. has heretofore been carried on to a very limited extent in Germany. At one period the *Medical Invalid* Life of London transacted a considerable bus. in Germany, but this particular branch of its operations was not often called into play here. See sub-heading *Life Ins.* 1871.

In 1863, Herr K. Heym pub. in Leipzig: *Die Kranken- und Invaliden-Versicherung. Zum Gebrauche bei Errichtung von Kranken- und Invalidencassen populär behandelt.*

In 1878 there was founded the *Universal* [? *General*] Life Ins. Co. of Leipzig, which has for its object the insuring the lives rejected by other offices, or of any persons of impaired health. It is said that the rejected lives in Germany reach a large total—as many as 22,379 in 1877, intended to insure some M 87,000,000. The rates of prem. are not fixed, but are said to be quite moderate. The Co. hopes to protect itself from hasty swindling by a regulation that if the insured dies within 5 years from the taking out of the pol., not the whole sum insured, but only part thereof will be paid. It will be most instructive to note the progress of this enterprise. All pol. are to be payable at 80, if the insured should live so long.

Limits of Residence and Travel.—So far as we have been able to learn, the German Life Offices have not yet shown any great liberality in the matter of Foreign Residence and Travel: this seems the more remarkable having regard to the commercial habits of the people. On the other hand, it may be considered that those who reside in foreign countries in view of commercial gain, can very well afford to pay for the increased risk incurred.

Medical Examinations.—An important step has been attained in this connexion, by the influence of the Union of Managers of German Life Offices, acting in concert with the German Physicians Union Asso.—it is this: the family or private medical attendant will furnish the Life Office with details regarding the health of the proposer. This arrangement appears to have been arrived at in 1874.

Military and Naval Services.—In 1872 a Mut. Asso. was founded in Berlin for the Ins. of Officers of the Army and Navy, against the casualties of actual service. See *Berlin Life*, 1836. See also sub-heading *Warfare*.

In 1874, at the instance of the Union of Ins. Managers, 13 of the leading Life Offices bound themselves, during the next war in which the German Empire should be engaged, to hold those persons who are insured in these Cos. covered against the dangers of war, *at the mutual risk and for the common account of the allied Offices.* The mode of working the scheme is as follows: Fixed extra prem. are charged (according to the nature of the service) of 10, 7½, and 5 p.c. on the sum insured. The ins. are to be effected before the actual breaking out of any war, and are to be limited to £1200 on any one life. The risks taken by each Co. are binding upon all; the prem. are brought into a common fund. Until actual service commences, interest only is paid on the extra prem. Any surplus to be divided among the insured according to a fixed rule, among such of the insured as survive. Some others of the Life Offices would have joined in this project, but their legal constitutions precluded them from doing so.

Premiums, Limitation of.—In most of the Life Offices, the payment of prem. ceases at age 85 or 90, although the amount insured does not become payable before death; but the cash value of the bonus add. provide something in the shape of an annu. to the members of advanced ages—a provision of the highest value.

Suicide.—The practice of the German Offices appears as much diversified as that of the British Offices. Some Cos. pay the full amount of the pol. if it has been a certain number of years in force; some pay only in the event of insanity being estab.; another class of Cos. pay only to third parties; there are some Cos. again which leave the settlement entirely in the hands of the respective boards; and a few Cos. preserve silence, or give but vague directions on the subject. This is the summary given by Dr. A. Emminghaus, jun., Man. of the *Gotha Life*, in his interesting little pamph.: *Die Behandlung des Selbstmordes in der Lebensversicherung*—The Practice of Ins. Cos. with Respect to Suicide. This subject will be discussed in more detail under our general title SUICIDE.

Surplus, Distribution of.—Some details of the method usually employed in Germany are given in our account of the founding of the *Gotha Life Ins. Bank*—see *Life Ins.* 1829. The plan adopted resembles that known as the CONTRIBUTION PLAN, so popular in the United States.

This question has again occupied the consideration of the Associated Managers of the German Life Offices quite recently.

Surrender Values.—The practice in respect of surrender values is much the same as in the U.K. Some of the Cos. bind themselves to pay surrender value after 3 years; others after 5 years.

1868.—Dr. August Wiegand read before the German Life Assu. Inst. a paper on the *Antagonism between Theory and Practice*; wherein he offers some instructive examples in support of his position; but on the whole the practice he indicates as prevailing in Germany—as also the Theory, for the most part—was closely analogous to that obtaining in the U.K. We must be content with quoting one passage:

In theory, it is an axiom that the sum which is set aside out of the prems. as a reserve for any ins., represents the credit of the pol.-holder in the assets of the Co. This axiom is indisputable. If, however, any one should infer from it that the pol.-holder can under all circumstances freely dispose of his share of the assets, that would certainly be in accordance with theory, but by no means with a wise practice. In the case of the surrender of a pol., *theory generally gives more than practice can sanction.* Those who surrender their polys. will evidently be mostly persons in sound health. *But their withdrawal lowers the average state of health of those lives whose pol. remain in force.* For this reason every Co. must retain a part of the reserve as a compensation for the deterioration of the remaining risks. That there are exceptions in this respect we have seen in the case of the man suffering from consumption; such cases are, however, very rare.

Altogether this is a most instructive, and well-reasoned, paper.

Marine Ins.—It is claimed by German writers [*Deutsche Versicherungs Zeitung*, 1876, etc.] that Marine Ins. was practised at a very early period in Germany, under the auspices of an order of Monks engaged in commerce; and that this order, which estab. itself in London during the reign of Edward the Confessor, in the 11th century, really introduced the practice of Marine Ins. into England. [GILHALDA TEUTONICORUM.] There are many points lending a corroborative character to this claim. These will fall to be considered more in detail in our hist. of MARINE INS. [HANSEATIC LEAGUE.]

1730.—About this date there was pub. the *Prussian Maritime Laws*, which were prob. only a revised ed. of the anterior Maritime Ordinances of Königsberg, dating from a much earlier period. [KÖNIGSBERG, MARITIME ORDINANCES OF.] We propose here to give an outline of some of the leading provisions of these Laws.

The first division treats of "Valid Insurances":

1. As every one, whether a denizen or foreigner, who is duly authorized to improve his property, shall within H. M.'s dominions be allowed to transact ins., or insure, or cause to be insured, all sorts of ships and goods; so all principals or agents, especially the brokers who are employed herein, shall in all points, according to this and other Royal Ordinances, deal truly, equitably, and honestly, without any imposition or fraud, on forfeiture of all profits otherwise accruing from thence, and of any compensation for the costs and damages, besides heavy fines and corporal punishments.

2. No ins. shall be deemed valid in a Court of Judicature unless a pol., either printed, or written in due form, and signed, be produced; or, where time would not permit execution of such instrument, the ins. was agreed to and determined in the presence of a sworn broker.

3. In every pol. shall be specified the names of the contracting parties, and whether they contract as principals or agents; the name and place of abode of the master of the ship; likewise of the ship, together with its build and burden; where lying; the ports or places where it is to take in or deliver its cargo, and likewise put in during the voyage; the particular goods insured, especially gold and silver, in coin or bullion; jewels and goods easily damageable, or which may diminish by leakage. Nevertheless, where the persons insuring could not for good reasons particularize the nature of the goods and ship, the ins. may be concluded in general terms, the goods and ship not being prohibited; but this must be clearly and explicitly set forth in the pol., and likewise, as the circumstances shall require, the provisions in art. 15 being also duly observed.

4. The instrument or pol. of ins. shall be signed by every insurer; and besides their names, the sum insured shall be set down, both in figures and letters of their own writing.

5. The pol. being underwritten, and without any particular agreement concerning the deposit of the prem., it shall be paid within 24 hours: after which space the insurers may choose whether they will still accept of it, and be further bound by the pol. or not; but the person insuring shall still be bound by the contract, and to lay down the prem., till the insurer either expressly refuses to accept it, or requires the pol. to be returned to him.

6. No insurer shall be allowed to insure above 2000 Rix Dollars on his own account, on any ship or other vessel, or its cargo, or on both jointly or separately, without special licence of the Insurance-Chamber, on forfeiture of the prem., and annulling the ins., with regard to the excess of the sum mentioned.

The limitation of the ins. on any one risk, or on combined risks, to £286 on any one vessel, indicates either very limited requirements for Marine Ins., or very extreme caution. The reference to the "Chamber of Ins." indicates a pre-existing state of Ins. practice—as indeed does every clause of the Laws under recital.

7. All the particulars insured shall be rated in the pol. at a certain price; *which, in regard to the ship, shall be to its full value at the time of making the ins., and of fitting it out; but in regard to the goods, according to the orig. purchase money, together with all charges preceding their being put on board. And if any one freights, and insures, his goods according to the current price, this must be clearly set down in the pol.; but no person is to presume to offer anything to be insured above the legal and constituted value.*

8. *If any one, from an eager desire of gain, shall run the risk of insuring a ship or goods to a greater sum than their equitable value, he shall be severely punished according to the circumstances, the ins. shall be void, and the prems. fall to the insurer; but if by accident, and without any evil design of the party insured, the value insured exceeds the usual and equitable worth of the ship or goods, the ins. shall indeed remain in its full force; but the insurers, in case of loss or damage of the goods insured, shall not be bound to pay more than their actual worth, and in proportion to the sum for which they respectively bound themselves. Likewise what overplus they received in the prem. on account of this abatement, after a deduction of half p.c., they are to return to the parties insuring.*

9. In case it be not clearly expressed in the pol. that the parties insured have not insured the full and entire worth of the goods insured, the tenth part of them shall always remain to their account

and hazard; and the insurers upon any accidental loss or damage shall be obliged to indemnify them no further than in $\frac{1}{10}$.

Here we have in force a principle of "co-insurance," so loudly contended for in Fire Ins. at the present day.

10. All ins. on expected gain, wagers, or such inventions, future freight-monies, seamen's wages, and men's lives, are universally forbid, and declared of no force; the seamen are, however, permitted to insure what goods and effects they may have, nor is any one going on a hazardous voyage prohibited from insuring by a pol. lawfully executed a certain sum of money for his ransom in case of being taken.

11. Provisions appointed for the use of the ship, likewise its military stores, as arms, powder, ball, and the like, may be insured, according to their full worth, along with the ship, but not alone and separately; and in case of a subsequent loss of the ship, the insurer is bound to pay for the whole quantity, although all or part of the provisions insured may have been expended.

12. The creditor or lender of the bottomry-money shall be allowed to insure his capital lent, together with the prem. paid the insurer, *but not the stipulated agio, or other profits of the bottomry*; but insurances made by the debtor, or borrower on bottomry, *on the same goods and ships so bottomryed shall be of no effect, but void and punishable.*

13. Any ins. made on ship or goods, after having left the harbour above a month in the Baltic, or in other European Seas above 3 months, shall be of no force; unless this circumstance be expressly mentioned in the pol. and it be concluded with the condition, "*notwithstanding any good or bad news relating thereto*;" or that the party insuring can make oath that at the time of passing the contract he had received no intelligence concerning them.

14. Likewise no ins. executed after the ship or goods insured shall have been lost or damaged, or are arrived at their place of destination, shall be valid in law; that is, in case the party insured had notice, at the time of underwriting the pol., of such loss or damage, or the insurer of their safe arrival; the contrary of which they shall be obliged to affirm upon oath, at the demand of the other party.

15. When a ship, after ins., or likewise an insured quantity of goods, in whole or in part, does not go out of the harbour, be it with or without the consent of the party insured, the insurer, deducting $\frac{1}{2}$ p.c., shall return the prem. of the goods which remain behind; that is, provided that the name of the master of the ship be properly set down in the pol., otherwise no returns to be allowed.

16. Likewise they, who, with the consent of the other party, would transfer an Ins. from one ship to another, or of one kind of goods to another, or of a larger capital to a smaller, shall be obliged to pay the insurer $\frac{1}{2}$ p.c. though no such thing had been stipulated.

17. Both the insurers and insured shall be allowed to make after-ins., either at a higher or lower prem.: *the insurers to the amount of what they themselves had insured, but not more*; and the insured on account of the prem. they have paid, and other charges of insuring; *as likewise for the more certain and equitable payment by the insurers, or their solvability.*

We have given the preceding portion of the Prussian Maritime Laws, as showing an intimate knowledge of the bus. of Marine Ins. at the date of their promulgation; and as indicating certain local usages, adapted to the circumstances of the State. There are many other provisions relating to the due execution of the contract when made, but these are not material to our present purpose.

Those who desire to consult the modern Mercantile Law of Germany will find the same in great detail in *Papers on Maritime Legislation: with a Translation of the German Mercantile Law relating to Maritime Commerce.* By Ernst Emil Wendt. 2nd ed. 1871. The 11th part relates to Ins.

Oddy, in his *European Commerce*, pub. 1805, speaking of Prussia, says: "The Assu. Co. was remodelled March 1, 1792, and its duration fixed for a limited time. The transportation of goods on the sea and rivers form their principal object, for which they have a proper fund, in shares of 1000 rix dollars each; and these in the year 1793 paid 6 p.c. int."—p. 280.

The bus. of Marine Ins. as carried on in modern times in Germany forms but a portion of that great interest known as "Transport Ins." The Cos. nearly all combine the 3 depart. of Maritime or Sea Transport; Lake, River, and Canal Transport; and Overland Transport: and most of them carry into one common fund the prem. received from these different branches; while the losses also are shown in gross, and not in detail.

1850.—Herr Masius estimated the amount of Sea and Land Transport Ins. in force in Germany at this date as amounting to £100,000,000, but furnished no estimate for apportioning the same.

1851.—In the Address of Herr Masius in London this year—already referred to in connexion with other branches of Ins. bus.—was contained the following:

Maritime Assu., which is really only of consequence at Hamburg and Trieste, *is at the present time in a very precarious state as to the results of gain and loss.* In Hamburg, through the pressure of home and foreign competition, the bus. suffers greatly, and the fate of the Cos. lies in the hands of the managers. The ann. reports themselves show how much tact and experience are necessary to form a good manager; and that a man can only become such by the education of actual service. Where that is not the case, the experience of the shareholder is purchased dearly. For some years, however, the bus. of the Cos. has been better administered in this respect, and a slight improvement has also taken place in the prem. In the year 1845 the average amount was $\frac{1}{4}$ p.c.; in 1866, $\frac{1}{18}$ p.c.; in 1847, $\frac{1}{12}$ p.c.; and in the year 1850 for a sum insured of 313,000,000 banco marks (about £26,000,000), $\frac{1}{18}$ p.c. In the year 1848 there were insured about 249,000,000 banco marks (£20,750,000), and in 1849 about 281,000,000 banco marks (£23,417,000). In Trieste there is more union amongst the insurers (notwithstanding that they are without an Ins. Asso. similar to that existing at Hamburg), and they suffer accordingly fewer losses, although their risks are on the average of an inferior class to those which are undertaken at Hamburg, where the chief bus. is carried on. The Rhenish Cos. at Wesel, Dusseldorf and Cologne, like the National Assu. Co. (*National Versicherungs Gesellschaft*) in Stettin, push the bus. of sea ins. mostly as a collateral branch, from which they cannot very well free themselves. They know and see the danger, and seek to protect themselves as much as possible by re-insurances.

1871.—In order to estimate the exact volume of the Marine Ins. bus. of Germany, it will be necessary to procure exact returns up to some given date from Bremen, Dantzic, Emden,

Hamburg, Königsberg, Lübeck, Stettin, etc. This is impossible of attainment; but some details will be given under several of these heads separately.

According to a T. compiled by the *Bremen* Ins. Brokers Asso. (but which gives only a summary of the amounts passing through the hands of the different Cos., and says nothing about the details of prems., income, etc.), the total value of property insured against marine risks in that City amounted (in 1871) to 110,230,700 gold thalers, distributed as follows:

Fourteen Home Companies	.....	Thalers	48,682,200	.....	44 ⁷⁵ p.c.
Twenty-six Foreign Companies	.....	„	61,048,500	.....	55 ³⁸ „
Several Private Companies	.....	„	500,000	.....	0 ⁴⁸ „
			110,230,800	100 p.c.	

A comparison between the amounts insured in 1871 and in 1870 shows that the latter year was very far surpassed by 1871, and that the sums insured in 1871 are larger than in 1867, which had up to this time shown the greatest amount of business by about 17 p.c. There were insured in

1866	.....	86,195,400 gold thalers.	1869	.....	90,132,500 gold thalers.
1867	.....	92,620,800 „	1870	.....	83,618,000 „
1868	.....	89,022,900 „	1871	.....	110,230,700 „

It is interesting, in comparing 1871 with 3 previous years, to observe how the share of the different companies had altered; that is, how considerably the portion of the Home Cos. had decreased, while that of the Foreign Cos. had increased in a corresponding degree. For example, there were insured as follows:

Year.	Home Cos. Gold thalers.	Foreign Cos. Gold thalers.	Private Cos. Gold thalers.
1866	62,358,300	18,679,600	5,157,500
1867	63,244,400	26,404,300	2,972,100
1868	52,848,200	34,044,700	2,130,000
1869	51,282,700	37,649,800	1,200,000
1870	42,542,000	40,563,800	512,200
1871	48,682,200	61,048,500	509,000

The number of Home Cos., which was 22 in the year 1866, had diminished to 14 in 1871, and 5 of these 14 were in liquidation, so that in reality only 9 Home Cos. were in existence. This decrease of Home Cos. was compensated for by an increase of Foreign Cos., the number of which had risen from 11 in 1866 to 26 in 1871, in Bremen alone.

An account of the rise of Marine Ins. in Bremen has recently been made available from records left by Heineken, a former Burgomaster. He says the first Co. was founded in 1769, its stock consisting of 52 shares of 1000 thalers each, with unlimited liability; but the Co. did not underwrite risks exceeding 1000 th. on any single ship. The Co. was of great advantage to the trade of the city; but as commerce increased, and the tonnage of vessels increased, the Co. was no longer equal to the requirements of the port, to say nothing of the large amount of ins. offered from Holland, during its war with England. In 1780, as a consequence, a second Co. was constituted; and in 1781 a third. From this date we may take up the narrative from the *Versicherungs Zeitung*, which is exceedingly instructive:

The organization of a 4th and a 5th Co. soon followed, not to speak of the great number of private underwriters who transacted Marine Ins. upon their individual account. All the new Cos. were formed upon the model of the original ones, and consequently upon identically the same principles. The stock of each consisted of 50 or 60 shares. The shareholders each deposited a certain sum in cash or in safe securities, as a permanent pledge in lieu of the required advance, all the private property of each of the members being liable, in addition, for all losses payable by the Co. There is no doubt that all of these Cos. with good management might have been permanently successful. This is shown by the success attained by the first Co. for 12 years, and the large ann. dividends it made during that period. The number of applications for ins. showed that there were not too many Cos. Of course, however, judgment and discretion were necessary, and in the case of one of the Cos., the third, the managing officer was wanting in these qualities. This man was vain and imprudent. At the end of the first year, he paid on account of profits, 500 thalers to each share, and beside caused the prems. to be reduced. His object in so doing was prob. to attract new ins., as according to the rules of the Co., 4 p.c. was allowed him on all the prems. received. As the property insured every year was worth millions, this per-centage amounted to a large sum, and any loss that could possibly come upon his interest in the Co. was quite inconsiderable in comparison with it. The deficit caused by the reduction of the prems. alone was enormous; had the prems. been suffered to remain only a little higher, the result would have been very different. *The reduction made was so large, that foreign insurers had their pol. re-insured with this Co., and made a handsome profit out of the difference between the prems. they received and the prems. they paid the Co.* Moreover, the Man. of this Co. issued pol. without sufficient examination, and what was still more unfortunate, he adopted the practice of insuring for whom it may concern—the mode of expression under which the subjects of belligerent states effected their ins.

He completed the Co.'s ruin by paying, without any hesitation, the whole amounts claimed for losses, suffering himself to be beguiled by the compliments paid to his penetration and quickness of comprehension, and possibly by other soothing influences. In this way he was wheedled out of money he was under no real obligation to pay; he even paid losses on property which had never been insured, or, at least, which he had never had any idea that had been insured. Business of this sort was of course short-lived. The Co. very soon fell into suspicion; some of the shareholders got upon the scent in 1783, and discovered the abyss in which the Co. was engulfed. Unfortunately all the other Ins. Cos. of the city were drawn after it into the vortex, and the damage caused by the disaster, to the city of Bremen, was thereby aggravated. Several of them had been compelled to

adopt many of the mischievous practices described, such, for example, as the low premiums, underwriting for account of whom it may concern, etc. They did so in the hopes of better times, and, if they had not, they would have been obliged to wind up their bus. at a greater or less sacrifice. Co. No. 3 saw no course open except to completely discontinue assuming new pol. and to liquidate its current bus. All the other Cos., one after another, followed its example, with the exception of No. 1, which contrived to maintain its ground, probably by the sacrifice of all its previous profits. The circumstances which attended the winding up of these asso. naturally created great excitement and disturbance in the mercantile world, and ruin threatened the merchants individually on account of the personal liability they had assumed; but, by a prompt settlement of all clear and well-founded claims, the storm was happily averted. They gained by this course friends and supporters, particularly as they were able to show some of the claimants that the demands they presented were overdue, and had long before been settled with the agents, and that the agents, from interested motives, pretended that they were still outstanding.

Other claimants were disagreeably affected by the Co.'s scrutinizing claims more closely than had previously been the practice, and threatened lawsuits, actually commencing proceedings in some cases. But these parties soon compromised their claims, finding it more advisable to abandon their claims, or to consent to an abatement from them, rather than to await for a judicial decision. There were still others who had no desire to see some old transactions ripped up, and were ready to accept any compromise that was offered. The consequence was that almost all the insurances in force were got rid of in one way or another, and consigned to oblivion. Within the short period of two years, Bremen lost, through the bankruptcy of the Ins. Cos., at the very least a million dollars. Whether any of the Cos., beside the original one of 1769, managed to keep its head above water, Burgomaster Heineken saith not. It is probable that one of them must have succeeded in doing so, because at the end of his account of the crisis of 1799, he briefly says that a "third" Marine Ins. Co. was organized in 1800.

1874.—While the Navy of Germany was admittedly small at this date (consisting of only 23 vessels, with 6 gunboats and 6 torpedo boats), the *Mercantile Marine* was making great strides, and was already next to that of France. It consisted of 219 steamers having an aggregate carrying power of 165,178 tons; and 263 sailing ships of 1,143,810 tons. This was an increase of more than 20 p.c. since 1867. The Navy had increased nearly 50 p.c. during the like period.

This year, as the result of a Convention held in *Hamburg*, there was founded the "International Union of Marine Insurers," or, as we have elsewhere seen it designated, the "International Transport Ins. Union." The Convention was attended by the representatives of no less than 36 Cos.; and although at first the objects of many of these were divergent, yet finally the following programme was adopted.

1. It was proposed that the terms and conditions of the *Hamburg Sea Insurers* should, after revision, be recommended for general introduction, especially in the matter of general average, with a view of abolishing the practice of dividing the claim over the assured value, which includes an imaginary profit, but which it is now proposed shall be divided *pro rata* over the sums assured. The establishment of an international maritime law as respects average, stranding, etc.

2. A closer union was recommended in matters relating to the defence of mutual interests, and it was thought desirable that the representatives of the Sos. in union should give a united high direction to each other in the matters of average, agency, election of experts, registration of captains and consignees in bad repute, and mut. exchange of prem. tables.

3. Discussion into the causes of the decline in ins. was entered into, the importance of which was, it was stated, proved by the attendance of those present. The first reason was considered to be clearly due to re-ins., as some Sos. underwrite whole cargoes, and prosper by the discounts allowed them by re-insurers. This bus., it was observed, must come to an end, as the victims become ruined. Incompetent underwriters and the doings of brokers next formed the theme of discussion, upon which subject many sharp thrusts were delivered.

4. The last matter considered was the inconsistency of the classification of vessels in the various registers and their competition, thus giving to shipowners the choice of placing their vessels in the most lenient. A general resolve was expressed to underwrite only steamers and their cargoes that were classed, and to decline grain in bulk by sailing vessels.

At the close of the sitting a Standing Committee constituted itself, electing for its President Director Buschins, Berlin; Second President, Director Gäderhens, Hamburg. Sub-Committees were to be appointed; and the next Convention was to be held at *Berlin*.

1875.—Several of the German Marine Ins. Cos. opened agencies in Lond. this year.

1878.—The total number of Marine Ins. and Transport Ins. Cos. operating in Germany at this date was stated to be 70—located at various parts of the Empire, but especially at the outposts. [BREMEN.] [HAMBURG.] [KÖNIGSBERG.] [LUBECK.] [STETTIN.]

Mercantile Credit Ins.—An attempt has recently been made to introduce this branch of bus. at Berlin. We have not learned the final result.

Military Substitutes.—This branch of Ins. has been carried on in Germany, but apparently only in a very limited degree.

Mortality Tables.—While there were no Life Ins. Offices requiring the aid of T. of this class at an early period in Germany, there were, towards the middle of the 17th century, a number of Annuity Sos. in the shape of Widows Funds, which very much required their aid; and the same again early in the 2nd half of the 18th century. It was prob. this latter circumstance which led to the construction of some of the earlier Mort. T. in Germany.

15th century.—Mortuary regis. were commenced in Germany at the end of this century.

1693.—Curiously enough the first Mort. T. of modern history was constructed from data obtained from the City of Breslau, in Silesia, and thus has a German origin; but it was constructed in England, and, so far as we are aware, has never been made use of by any German Annu. or Life Asso. ! [BRESLAU T. OF MORT.]

1765.—In the 2nd vol. of the 3rd ed. of Susmilch's *Göttliche Ordnung*, pub. this year, there was contained a T. of the prob. of living at every age, for the kingdom at large. This T. was generally used in Germany for all computations of life contin. during the last century. We give it, although it has many imperfections, in order to keep on record the first German Mort. T. deduced from German data, and used in Germany. From this T. (as corrected by Baumann?) was calculated the values of single and joint life annu. for the Institution for Widows in the Duchy of Oldenberg. Also for another inst. of the same kind in Hamburg.

T. for Determining the Number of Deaths among 1000 Born at each Age of Life, and also for Determining the Prob. of Life, and other useful inferences :

Year.	Rate of Mort. [No. of Deaths.]	Of 1000 born there are remaining living in each year.	Sum of the years of Life passed thro' by the living and the dead combined.	Every Year 1 in this No. dies.	Year.	Rate of Mort. [No. of Deaths.]	Of 1000 born there are remaining living in each year.	Sum of the years of Life passed thro' by the living and the dead combined.	Every Year 1 in this No. dies.
0	260	1000	1,000	4	49	8	321	23,115	40
1	80	740	1,740	9	50	8	313	23,428	39
2	40	660	2,400	16	51	8	305	23,733	38
3	24	620	2,620	25	52	8	297	24,030	37
4	12	596	2,616	49	53	9	289	24,319	32
5	10	584	3,200	58	54	9	280	24,599	31
6	10	574	3,770	57	55	9	271	24,870	30
7	10	564	4,334	56	56	9	262	25,132	29
8	8	554	4,888	69	57	9	253	25,385	28
9	6	546	5,434	91	58	9	244	25,629	27
10	5	540	5,974	108	59	9	235	25,864	26
11	5	535	6,509	107	60	9	226	26,090	25
12	4	530	7,039	132	61	9	217	26,307	24
13	4	526	7,565	131	62	9	208	26,515	23
14	4	522	8,087	130	63	9	199	26,714	22
15	4	518	8,605	129	64	10	190	26,904	19
16	4	514	9,119	128	65	10	180	27,084	18
17	4	510	9,629	127	66	10	170	27,254	17
18	5	506	10,135	101	67	10	160	27,414	16
19	5	501	10,636	100	68	10	150	27,564	15
20	5	496	11,132	99	69	10	140	27,704	14
21	5	491	11,623	98	70	10	130	27,834	13
22	5	486	12,109	97	71	9	120	27,954	13
23	5	481	12,590	96	72	9	111	28,065	12
24	5	476	13,066	95	73	9	102	28,167	11
25	5	471	13,537	94	74	8	93	28,260	11
26	5	466	14,003	93	75	8	85	28,345	10
27	5	461	14,464	92	76	8	77	28,422	9
28	5	456	14,920	91	77	7	69	28,491	9
29	5	451	15,371	90	78	7	62	28,553	8
30	5	446	15,817	89	79	6	55	28,608	8
31	5	441	16,258	88	80	6	49	28,657	8
32	5	436	16,694	87	81	6	43	28,700	7
33	5	431	17,125	86	82	5	37	28,737	7
34	6	426	17,551	71	83	4	32	28,769	8
35	6	420	17,971	70	84	4	28	28,797	7
36	7	413	18,384	60	85	4	24	28,821	8
37	7	406	18,790	58	86	3	21	28,842	7
38	7	399	19,189	57	87	3	18	28,860	6
39	7	392	19,581	56	88	3	15	28,875	7
40	7	385	19,966	55	89	2	13	28,888	6
41	7	378	20,344	54	90	2	11	28,899	5
42	7	371	20,715	53	91	2	9	28,908	4
43	7	364	21,079	52	92	2	7	28,915	3
44	7	357	21,436	51	93	2	5	28,920	5
45	7	350	21,786	50	94	1	4	28,924	4
46	7	343	22,129	49	95	1	3	28,927	3
47	7	336	22,465	48	96	1	2	28,929	2
48	8	329	22,794	41	97	1	1	28,930	1

From the data contained in Susmilch's work (more especially T. No. 23 and 24 in vol. ii.) Herr Lambert calculated a T. exhibiting the law of mort. which prevails among mankind generally.

1772.—*Berlin (City) T.*—In the 2nd ed. of Dr. Price's *Obs. on Reversionary Payments* is given a T. "showing the prob. of life at *Berlin*, formed from the Bills for 4 years, from 1752 to 1755, given by Mr. Susmilch in his *Gottliche Ordnung*, vol. ii. p. 37, Tables," pub. this year. We have already printed this T. under *BERLIN*, but have there given the date of a later ed. of Dr. Price than the T. first appeared in. (See 1835.)

Brandenburg (Country Parish) T.—There was pub. in the 2nd ed. of Dr. Price's *Reversionary Payments* pub. this year a T. "showing the prob. of life in a country parish in Brandenburg, formed from the Bills for 50 years, from 1710 to 1759, as given by Mr. Susmilch in his *Gottliche Ordnung*, p. 43." This T. appears to have been computed by Dr. Price himself—thus, p. 347, "which I have formed from a regis. in Susmilch's works, of the ages at which the inhabitants of a country parish in Brandenburg died." (See 1775.)

1775.—At this date there was pub. by Susmilch, a T. for the entire Duchy or Kurmark of Brandenburg, which we have already given under *BRANDENBURG*.

1781.—The following are abstracts of the 3 orig. Mort. T. given by Herr Carl Chassot de Flourencourt, of which we have spoken under sub-heading *Life Contingencies*, this date. (See Table 1 below, and Tables 2 and 3 on the following page.)

1829.—On the founding of the *Gotha Life Assu. Bank*, which came into active operation this year, the promoters elected to have its rates of prem. deduced from *Babbage's Equitable So. T.* (first pub. in 1826); and this T. the So. continued to use down till a comparatively recent period, when a T. had been deduced from its own experience.

1831.—On the founding of the *Hanover Life*, this year, the T. of prem. were deduced from a T. composed of the combined data of the Susmilch and Baumann T., which, however, does not mean the Susmilch-Baumann T. as generally understood.—See sub-heading *Life Ins.*, 1831.

1832.—Prof. Littrow pub. in Vienna: *Ueber Lebensversicherungen und andere Versorgungsanstalten*; wherein a formula is given for the construction of Mort. T.

1835.—Dr. Casper pub. a Mort. T. for *Berlin* this year (male and female lives separate), which we have already given in *extenso* under *BERLIN*.

1837.—*Brune's T.*—This T. (of which there are several eds.), based upon the experience of the *Prussian Widows Annuity So.*, was first pub. by Herr Rechnungsrath Brune, of Berlin, this year. The obs. then extended over a period of 58 years—from 1776 to 1834—and embraced a large amount of facts, extending over some 31,500 marriages. The data so collected was considered to throw a considerable light on the duration of life in Germany. "They represent what is equivalent to the selected lives

TABLE 1.—*Male Lives.*

Year.	No. of Deaths.	No. Living.	1 Death in	Average of Life.	Probable Duration of Life.
0	2605	10,000	3'84	28'19	17'15
1	792	7,395	9'34	36'94	39'14
2	290	6,603	22'77	40'32	43'50
3	234	6,313	27'09	41'14	44'33
4	192	6,079	31'83	41'70	44'75
5	158	5,887	37'51	42'04	44'88
10	57	5,312	94'98	41'31	43'14
15	39	5,082	130'31	38'13	39'51
20	44	4,886	115'59	34'56	35'61
25	56	4,637	82'69	31'27	32'00
30	61	4,344	71'21	28'19	28'59
35	64	4,037	63'09	25'19	25'25
40	70	3,707	52'96	22'18	21'96
45	78	3,340	42'82	19'34	18'73
50	87	2,934	33'72	16'66	15'59
55	89	2,497	28'05	14'94	12'59
60	95	2,042	21'49	11'73	10'04
65	108	1,531	14'18	9'78	8'63
70	91	1,025	11'26	8'41	6'65
75	65	614	9'44	7'44	6'36
80	38	358	9'42	6'16	5'13
85	30	183	6'10	4'68	3'55
90	12	67	5'58	4'16	3'71
95	6	24	4'	2'62	2'25
100	1	3	3'	1'5	1'5
102	1	1	1'	0'5	...

GERMANY.—MORTALITY TABLES.

TABLE 2.—Female Lives.

Year.	No. of Deaths.	No. Living.	1 Death in	Average of Life.	Probable Duration of Life.
0	2368	10,000	3'48	29'49	20'79
1	456	7,132	15'63	40'14	43'44
2	289	6,676	23'10	41'86	45'47
3	249	6,387	25'64	42'72	46'33
4	188	6,138	33'18	43'43	46'89
5	152	5,950	39'14	43'79	47'05
10	63	5,418	86'00	42'88	45'25
15	33	5,185	154'69	39'74	41'86
20	34	5,027	147'85	35'88	37'53
25	50	4,826	96'52	32'26	33'71
30	64	4,546	71'03	29'09	30'32
35	65	4,220	64'92	26'15	27'14
40	70	3,885	55'50	23'19	23'91
45	75	3,525	47'00	20'29	20'67
50	80	3,140	39'25	17'47	17'44
55	85	2,731	32'13	14'71	14'19
60	88	2,301	26'14	11'94	11'01
65	104	1,832	17'61	9'39	8'14
70	118	1,267	10'74	7'59	6'17
75	88	735	8'35	6'09	4'61
80	56	352	6'28	4'91	4'00
85	23	147	6'39	4'37	3'65
90	12	52	4'35	3'17	2'5
95	3	10	3'33	2'7	2'0
100	1	2	2'00	1'0	1'0
101	0	1	1'00	...	...

TABLE 3.—Males and Females Combined.

Year.	No. of Deaths.	No. Living.	1 Death in	Average of Life.	Probable Duration of Life.
0	2583	10,000	3'87	28'77	19'74
1	657	7,417	11'13	37'74	39'71
2	301	6,760	22'12	40'38	43'32
3	253	6,459	25'53	41'25	44'43
4	220	6,206	28'21	41'91	45'11
5	178	5,986	33'63	42'44	45'56
10	51	5,451	106'88	41'43	43'83
15	44	5,221	118'66	38'15	40'22
20	53	4,987	94'09	34'81	36'51
25	58	4,710	81'21	31'71	33'00
30	61	4,418	72'26	28'64	29'47
35	67	4,093	61'09	25'71	26'10
40	68	3,756	55'25	22'87	22'71
45	73	3,406	46'66	19'93	19'35
50	77	3,036	39'43	17'05	16'12
55	89	2,629	29'54	14'27	13'17
60	101	2,157	21'36	11'87	10'68
65	104	1,634	15'71	9'85	8'61
70	92	1,141	12'40	8'06	6'62
75	81	699	8'63	6'61	4'93
80	51	345	6'73	6'06	4'54
85	23	160	6'95	5'62	4'73
90	10	77	7'7	4'5	4'14
95	7	32	4'57	2'59	2'6
100	3	6	2'6	1'33	1'0
103	1	0	1'0	0'5	...

of Assu. Cos. in this country—for the male lives were required to undergo a strict examination as to their state of health." The Eds. of the *Assu. Mag.* say (vol. iii. p. 29), "They are the first German T. which can be considered to lay claim to close accuracy in the facts observed; and the *Brunswick Annu.* So. have chosen them, with some slight alterations, for the basis of their T. of rates."

In the *Allgemeine Versicherungs-Zeitung* for 1847, this T. is given (by Herr Masius), with the facts brought down by Herr Brune to 1845—being a further period of 11 years—for both male and female life:

MALES.—*T. of Mort. according to the Experience of the Prussian Widows Annu. So. for 69 Years—from 1776 to 1845. (BRUNE.)*

Age.	Living at the Beginning of the Year.	In the course of the Year		T. of Mort. deduced therefrom.			
		Withdrawn.	Died.	Living.	Died.	Prob. of Dying in a Year.	Expectation
21	39	—	1	9260	58	'00626	39'50
22	115	2	1	9202	58	'00630	38'75
23	294	3	4	9144	59	'00645	38'00
24	696	16	7	9085	60	'00660	37'14
25	1,498	27	4	9025	61	'00676	36'49
26	2,674	45	21	8964	61	'00680	35'73
27	4,340	67	27	8903	61	'00685	34'97
28	6,246	109	31	8842	62	'00701	34'21
29	8,398	125	81	8780	63	'00717	33'45
30	10,561	180	67	8717	64	'00735	32'69
31	12,657	180	81	8653	66	'00763	31'93
32	14,674	213	134	8578	69	'00803	31'17
33	16,451	244	140	8518	73	'00857	30'42
34	17,958	257	167	8445	76	'00900	29'68
35	19,198	293	175	8369	78	'00932	28'94
36	20,106	283	188	8291	81	'00977	28'21
37	20,790	326	226	8210	85	'01035	27'48
38	21,246	304	226	8125	89	'01095	26'76
39	21,548	329	241	8036	93	'01157	26'05
40	21,734	317	271	7943	96	'01209	25'35
41	21,737	280	245	7847	98	'01249	24'65
42	21,631	312	261	7749	100	'01290	23'96
43	21,355	316	304	7649	103	'01347	23'27
44	20,838	257	316	7546	106	'01405	22'58
45	20,374	288	300	7440	110	'01478	21'89
46	19,809	260	312	7330	114	'01555	21'21
47	19,086	244	335	7216	119	'01649	20'54
48	18,335	267	307	7097	124	'01747	19'88
49	17,454	236	315	6973	128	'01836	19'22
50	16,544	229	309	6845	131	'01914	18'57
51	15,676	230	277	6714	135	'02011	17'92
52	14,763	196	319	6579	139	'02113	17'28
53	13,782	199	305	6440	144	'02237	16'64
54	12,820	177	316	6296	149	'02366	16'01
55	11,945	191	311	6147	155	'02521	15'39
56	11,038	183	304	5992	162	'02703	14'77
57	10,151	162	299	5830	168	'02882	14'17
58	9,285	166	274	5652	175	'03091	13'58
59	8,505	140	299	5487	183	'03336	13'00
60	7,713	121	261	5304	192	'03621	12'43
61	7,024	112	285	5112	202	'03942	11'87
62	6,353	142	260	4910	211	'04297	11'34
63	5,709	122	267	4699	218	'04638	10'83
64	5,098	117	260	4481	223	'04978	10'33
65	4,524	92	232	4258	226	'05308	9'85
66	4,016	102	233	4032	228	'05656	9'37
67	3,517	87	245	3804	231	'06072	8'90
68	3,039	91	201	3573	235	'06579	8'44
69	2,640	80	163	3338	238	'07128	8'00
70	2,288	78	170	3100	241	'07776	7'58
71	1,944	70	187	2859	242	'08467	7'17
72	1,625	62	161	2617	243	'09320	6'79
73	1,343	48	145	2374	242	'10194	6'44
74	1,100	46	120	2132	237	'11111	6'11
75	877	41	82	1895	228	'12034	5'81
76	711	41	88	1667	210	'12594	5'54
77	563	29	61	1457	188	'12903	5'26
78	450	21	48	1269	166	'13089	4'97
79	358	20	60	1103	149	'13514	4'64
80	265	21	39	954	137	'14368	4'29
81	195	12	33	817	128	'15674	3'93
82	145	4	37	689	121	'17571	3'57
83	100	5	21	568	114	'20080	3'22
84	70	9	11	454	104	'22936	2'90
85	49	7	10	350	89	'25445	2'62
86	31	2	10	261	74	'28329	2'34
87	19	1	5	187	60	'32051	2'07
88	12	...	2	127	47	'37037	1'81
89	8	1	2	80	34	'42553	1'58
90	4	1	...	46	22	'47847	1'37
91	3	1	1	24	13	'54054	1'16
92	1	...	...	11	7	'63694	'95
93	1	...	...	4	3	'75000	'75
94	...	...	...	1	1	'00000	'50

The corresponding T. for FEMALES has already been given *in extenso*, under FEMALE LIFE, date 1847.

It will be seen on comparison that while Brune's T. shows a greater expect. of life than *Finlaison's Gov. Annu. T.* at the earlier ages of male life, this has ceased by age 30; and at all the later ages a longer expect. is shown among the English male annuitants than among Germans. The female Germans show a better expect. than the males; but they are still below the English Annuitant females.

The obs. in the combined T. cover a period of no less than 69 years, and include the statistics of about 80,000 married people alone. More than 5000 ins. lives are observed upon at the advanced age of 70, and over 700 at the extreme old age of 80. The T. may therefore well be regarded as an exponent of the value of insured life in Germany. The adjoining abstract furnishes a comparison of the per-centage of mort. shown by it, compared with that of *Experience T. No. 2*, and that of the *American Experience T.*

Thus the mort. experienced by German insured lives is seen to be about *one-fifth* greater than that of English insured life, and about *one-third* more than that of the *Mutual Life of N.Y.*, upon which the *American Experience T.* is based.

"This T. of Brune's is perhaps the best of all the German T., and resembles in many respects the Equitable Experience."—*Assu. Mag.* vol. xv. p. 294.

1839.—Dr. Moser pub. in Berlin: *Die Gesetze der Lebensdauer*, etc., wherein was contained a formula from which a Mort. T. was afterwards constructed, regarding which we have no details.

1843.—The 15th Ann. Rep. of the English Reg.-Gen. contained the following :

No Life Tables have been constructed for the pop. of *Prussia*; but the data exist, and have to a certain extent been pub., though in forms which present considerable obstacles to the calculation. The Census of Prussia, in which the ages are distinguished, is taken every 3 years; and periodical abstracts of the deaths have been carefully made by Mr. Hoffman. The ages of the living are, however, divided in an irregular manner, entirely different from the correct divisions adopted by Mr. Hoffman in the returns of deaths: which renders it impossible, without a preparatory interpolation, to compare the deaths with the living at the several given ages.

1846.—Herr A. Tellkamp pub. in Hanover: *Die Verhältnisse der Bevölkerung und der Lebensdauer im Königreich in Hannover: Ein Beitrag zur Statistik Deutschlands.*

This work contained a T. of Mort. for the kingdom of Hanover, for the period 1825 to 1843, in which Herr Hopf asserted that the greatest reliance might be reposed. Of this T. we only have the means of furnishing the adjoining brief abstract, giving the mort. p.c. at quinquennial periods of middle and advanced life:

In this T. the mort. was found to be greater than that of the *Gotha Life* [see 1855] at all the periods of age, except the last, when it was very much less.

1850.—Herr J. M. Romig pub. in Augsburg: *Einige Worte über Wittwen- und Waisen-Verpflegungsanstalten nebst Einzahlungstabellen für Wittwenkassen, nach der Brune'schen Mortalitätstafel berechnet.* This T. we have never seen.

1851.—Herr Masius, in his Address before the Ins. Convention held in London this year, made special reference to a T. for the kingdom of *Saxony*, prepared by the Statistical So. in Dresden, which T. we have next to notice.

1852.—There was pub. in Dresden: *Statistische Mittheilungen aus dem Königreich Sachsen, Herausgegeben vom Statistischen Bureau des Ministerium des Innern. I. II. Lieferung*; wherein is contained a Life T. for Males in *Saxony*, compiled from data extending over the period 1834-50 by Herr Leonhardi. Of this T. too Herr Hopf has spoken as one in which the greatest confidence may be reposed. We are only able to furnish the annexed brief abstract of the mort. p.c.:

This T. was found to show a larger mort.

Age.	Prussian T. Male.	Experience T. No. 2.	American Experience.
30	7'35	8'43	8'43
35	9'32	9'29	8'95
40	11'57	10'36	9'79
45	14'78	12'21	11'16
50	19'14	15'94	13'78
55	25'21	21'66	18'57
60	36'21	30'34	26'69
65	53'8	44'08	40'13
70	77'76	64'93	61'99

Table of Mort. for Hanover.
(Tellkampf.)

Ages.	Mort. p.c.
26—30	1'11
31—35	1'25
36—40	1'35
41—45	1'48
46—50	1'77
51—55	2'50
56—60	3'61
61—65	5'70
66—70	7'91
71—75	9'34
76—80	12'74
81—85	18'50

T. of Mort. for Saxony—MALES.
(Leonhardi.)

Ages.	Mort. p.c.	Ages.	Mort. p.c.
26—30	1'07	56—60	3'71
31—35	0'99	61—65	5'43
36—40	1'15	66—70	7'37
41—45	1'57	71—75	10'39
46—50	2'07	76—80	15'48
51—55	2'71	81—85	21'74

than that of the *Gotha* Life [see 1855] at all ages below 80, after which the results became the other way, but not nearly to the extent shown in the T. for Hanover.

1855.—The mort. experience of the *Gotha* Life, for the 25 years of its existence, 1829–53, was this year pub., with a resulting Mort. T. at quinquennial ages, for males and females. This T. we have already given under FEMALE LIFE, at this date.

For the results of Dr. Heym's investigations into the mort. and sickness of Friendly Sos. in Germany, pub. this year, see sub-heading *Friendly Sos.* 1855.

1865.—Dr. Theodor Wittstein, Actuary of the *Hanover* Life Ins. Co., read before the Mathematico-Physical Section of the 40th Natural Philosophy Congress, held at Hanover, a paper: *On Mathematical Statistics, and its Application to Political Economy and Ins.*; wherein was embodied a T. of the Mort. Experience of the *Hanover* Life, over a period of 34 years, 1831–2 to 1864–5, of which we give the following abstract, contrasted (as it was by its compiler) with the results of the British *Experience* T. No. 1.

Mort. T. Hanover Life—Male and Female combined. (WITTSTEIN.)

Age.	Nos. Living.	Prob. of Dying in a Year. (Graduated.)	Experience T. No. 1.		Age.	Nos. Living.	Prob. of Dying in a Year. (Graduated.)	Experience T. No. 1.	
			Nos. Living.	Prob. of Dying in a Year.				Nos. Living.	Prob. of Dying in a Year.
25	10000'0	'01097	10000	'00777	56	6486'3	'02457	6912	'02313
26	9890'3	'01165	9922	'00789	57	6327'0	'02644	6752	'02468
27	9775'0	'01188	9844	'00801	58	6159'7	'02862	6586	'02639
28	9659'0	'01183	9765	'00814	59	5983'4	'03088	6412	'02825
29	9544'6	'01212	9686	'00824	60	5798'7	'03285	6231	'03034
30	9428'8	'01219	9606	'00842	61	5608'3	'03442	6042	'03261
31	9313'8	'01160	9525	'00858	62	5415'3	'03657	5845	'03512
32	9205'8	'01120	9443	'00875	63	5217'3	'03931	5639	'03784
33	9102'8	'01110	9360	'00892	64	5012'2	'04140	5426	'04083
34	9001'6	'01097	9277	'00910	65	4804'8	'04395	5204	'04408
35	8902'8	'01107	9192	'00929	66	4593'6	'04679	4975	'04761
36	8804'4	'01134	9107	'00948	67	4378'6	'04893	4738	'05447
37	8704'4	'01194	9021	'00969	68	4164'4	'05064	4494	'05561
38	8600'8	'01248	8933	'00991	69	3953'5	'05525	4244	'06009
39	8493'6	'01311	8845	'01013	70	3735'1	'05864	3989	'06493
40	8382'2	'01356	8755	'01036	71	3516'0	'06216	3730	'07016
41	8268'6	'01410	8664	'01061	72	3297'5	'06673	3468	'07580
42	8152'0	'01427	8573	'01089	73	3077'4	'07404	3206	'08188
43	8035'6	'01413	8479	'01125	74	2849'6	'07702	2943	'08847
44	7922'2	'01391	8384	'01170	75	2630'1	'08602	2683	'09556
45	7812'0	'01396	8286	'01221	76	2403'9	'09691	2426	'10318
46	7703'0	'01397	8184	'01284	77	2170'8	'11111	2176	'11147
47	7595'4	'01404	8079	'01352	78	1929'6	'12375	1933	'12044
48	7488'8	'01466	7970	'01426	79	1690'8	'15218	1701	'13006
49	7379'0	'01513	7857	'01506	80	1433'5	'18136	1480	'14041
50	7267'4	'01579	7738	'01594	81	1173'5	'22851	1272	'15144
51	7152'7	'01667	7615	'01690	82	905'3	'27516	1079	'16319
52	7033'5	'01804	7486	'01795	83	656'2	'33002	903	'17591
53	6906'5	'01908	7352	'01909	84	439'7	'37535	744	'18968
54	6774'7	'02068	7211	'02031	85	274'6	'43434	603	'20510
55	6634'7	'02237	7065	'02166	86	155'4	.....	479	.....

Here it is seen that the prob. of dying in a year was greater in the *Hanover* Life for all ages up to 64 than in the 17 English Offices; from age 65 to 78 it was the other way; while from 79 to the end of the T. the prob. of dying in the *Hanover* portion of the T. is so much in advance of the English as to suggest insufficiency of data for obs. at these extreme ages.

1867.—A German correspondent to the *N. Y. Daily Times* drew attention to the heavy mort. experienced amongst Germans resident in the U.S., and showed by reference to the experience of the *Germania* Life Ins. Co. on its bus. for 1866, that the mort. among the German pop. of that city was noticeably out of proportion to other nationalities. Of 23 Life Cos. doing bus. in N.Y. State in 1866, the *Germania*, which insured Germans mainly, paid out the highest ratio of claim compared with its income; viz. 25'26 p.c.; whilst the lowest ratio paid by other Cos. was 6 p.c., and the average 14 p.c. Premium received by *Germania* in 1866, \$693,427; claims paid in 1866, \$187,925; ratio of claims paid to total income, 25'26. "This result would make the mort. among the Germans 10 p.c. higher than among the general American pop. The writer does not hesitate to assign as the cause the too-liberal use of lager beer and Rhine

wine. But upon such an exciting question we do not venture an opinion."—*New York Underwriter*, Dec. 1867.

1868.—Dr. Knapp, Director of the Statistical Bureau at Leipzig, pub. a work: *Ermittlung der Sterblichkeit* (On the Ascertaining the Mort. from the Census Statistics). This work was dedicated to the Statistical Congress at Florence. Its object was to give directions how to ascertain the mort. according to the age, that is, to fix the order of sequence of mort. from the statistics of pop. While it admitted that there was an abundance of practical statistics relative to the comparative numbers of living and dead in nearly every country, there was a want of theoretical statistics to show how these numbers affected or were connected with the order of mort. He proposed to supply this want by *analysis*; and to this end his work was directed. It contained 4 lithographic T. illustrating the author's method.

This same year there was pub. in Brunswick by Dr. Herrman Scheffler: *Sterblichkeit und Versicherungswesen, neu behandelt*, wherein he proposed a new mode of working the different problems in Life Ins. In the portion devoted to the consideration of Mort. T. he abjures the more scientific methods, and steers clear of the mathematical doctrine of Probabilities. He prefers a T. of Mort. exhibiting the number of survivors at each year of life, to one showing the rate of mort.—the more so as the former T. is more easily corrected. He touches rather vaguely upon that scientific portion of modern Mort. T. which exhibits the force of mort. He next investigates the best means to arrive at the mort. of a stationary pop., and discusses Halley's and Euler's methods. He examines how best to ascertain the mort. of a pop. subject to immigration and emigration, as well as to changes in the fecundity; and shows how Mort. T. may be practically framed from actual periodical enumerations of the people, and ann. Bills of Mort.

The author had applied the results of the Censuses of the Duchy of Brunswick to the determination of the mort. existing in the capital, in other towns, and in the whole of the principality; and he found his results corresponded in a remarkable degree with those of certain Sos. whose returns he had examined. He found little divergence between the mort. of the two sexes; but on the whole it appeared that the mort. of females was greater than that of males up to the 25th year, and that above that age the contrary was the rule.

But having thus constructed a *Brunswick T. of Mort.*, he does not apply this on the basis of his further investigations; but proceeds to compound a T. from the results of 26 other more or less well-known T. (British and Continental), which he designates an *Average T. of Mort.* The T. he so employed are enumerated in the *Assu. Mag.* (vol. xv. p. 293), where the reviewer further remarks: "He graphically represents the several T. by means of curves, taking for the abscissæ the years of life, and for the ordinates the corresponding number of living. As the radix of the T. he takes the number 4455, this being the number of survivors at age 50 under the *Equitable T.* Accordingly at this age all the curves intersect. In this manner the author thinks he avoids the irregularities presented by the several curves in early and advanced life, and is enabled to obtain an average curve, which he considers best answers the requirements of Life Assu., where the mort. of a mixed class of society is required. Dr. Scheffler professes to have adjusted the T. derived from this average curve: but one may look in vain for a scientific process, such as we are accustomed to in this country. *German writers altogether seem to have been remiss in the adjustment of their T.*; and perhaps this may be the reason, that although they have numerous Mort. T. of their own, the English T.—more particularly the Experience of the Seventeen Cos.—are generally used, and their own T. are discarded."

In the Appendix is contained two sets of T.—the one on the basis of the *Average T.* previously referred to, which were to be used in the calculation of annu., or for risks upon non-select lives; and another set of T. based on Brune's Experience T. for the calculation of ins. risks which appertain to select lives. Examples of these respective applications are given.

At the second meeting of the German Life Assurance Institute held in March of this year (1868), it was resolved that a Committee be formed for taking the preliminary steps towards the formation of a T. of Mort. based on the data of German Insured Life—to be collected from the various German Offices. The Committee consisted of the seven founders of the Inst. [see *Life Contingencies* this date], and of Prof. Hülse (Dresden), Dr. Laugheirich and Dr. Bremiker (Berlin). Herr Wilhelm Lazarus, in communicating this fact to the Editor of the *Assu. Mag.* [vol. xiv. p. 248], said, truly:

A German Mort. Experience T. will be of great interest to English Life Assu. Offices, as well from a practical point of view—since so many English Sos. do a good deal of bus. in Germany—as from a theoretical one, in forming means of comparison with the English Experience T. already in use, and with the new one now in course of formation. [See 1878.]

1874.—About this date much attention was drawn to the Mort. T. constructed by Dr. Heym upon the data furnished by the triennial census reports for the Kingdom of Saxony pub. respectively in 1840, '3, '6, and '9, and on the official Mortuary Regis. of the same country for the years 1838-49 inclusive. This is stated to be the only Mort. T. based upon a German census. When and where it first appeared we are not informed, and we are only able to give the accompanying abstract of it:

Mort. T.—Saxony. (HEYM.)

Age.	Mort. p.c.	Age.	Mort. p.c.	Age.	Mort. p.c.	Age.	Mort. p.c.
20	0'732	39	1'126	58	3'178	77	15'194
21	0'738	40	1'158	59	3'444	78	16'111
22	0'743	41	1'190	60	3'762	79	17'218
23	0'733	42	1'262	61	3'996	80	18'600
24	0'738	43	1'297	62	4'404	81	18'918
25	0'776	44	1'393	63	4'793	82	20'606
26	0'798	45	1'450	64	5'270	83	22'037
27	0'821	46	1'514	65	5'808	84	24'019
28	0'828	47	1'558	66	6'278	85	26'451
29	0'868	48	1'603	67	6'813	86	28'070
30	0'876	49	1'714	68	7'358	87	30'487
31	0'935	50	1'787	69	8'034	88	33'333
32	0'961	51	1'907	70	8'688	89	36'842
33	0'987	52	2'056	71	9'732	90	37'500
34	1'015	53	2'236	72	10'539	91	40'000
35	1'061	54	2'404	73	11'442	92	44'444
36	1'054	55	2'631	74	12'461	93	40'000
37	1'083	56	2'800	75	13'448	94	66'000
38	1'113	57	2'982	76	14'328	95	100'000

The appearance of this T. in the U.S. led to the following instructive criticism in the pages of the *Insurance Monitor*, N.Y. :

The most interesting features to an actuary are those developed by a comparison with the value of *German* insured life. Most of the North German Cos. have adopted as their standard the Mort. T. of the *Prussian Widows Annuity* So., formed from about the most ample observations on selected life in Germany. The following T. exhibits a synopsis of the general and selected mort. of *Germany, England, and the United States* :

Age.	Saxony T.	Prussian Widows.	English Life. No. 3.	Inst. of Actuaries.	Meech's U.S. Census T.	American Experience.
21	'74	'63	'35	'74	'94	'79
25	'78	'68	'92	'78	'96	'81
30	'88	'74	1'01	'84	1'01	'84
35	1'06	'93	1'13	'93	1'08	'89
40	1'16	1'21	1'30	1'04	1'19	'98
45	1'45	1'48	1'54	1'22	1'37	1'12
50	1'79	1'91	1'88	1'59	1'64	1'38
55	2'63	2'52	2'45	2'16	2'08	1'86
60	3'76	3'62	3'25	3'03	2'77	2'67
65	5'81	5'31	4'59	4'41	3'84	4'01
70	8'69	7'78	6'73	6'49	5'51	6'20
75	13'45	12'03	9'88	9'56	8'08	9'44
80	18'60	14'37 _{mg}	14'18	14'04	12'02	14'45

The *American* Tables exhibit likewise an excessive general mort. during the earlier ages, but the curves begin to approach at about the age of 55, and after 60 the selected lives maintain a constantly increasing excess of mort. These distinctive features in the three sets of curves are worthy of notice. The *German* curves approach, lap, and again recede at middle life; the *English* and *American* approach only as old age comes on, but, in the case of the latter, the two lines cross and continue to diverge. The last feature, however, may be the result simply of imperfect observations in our own country. It thus appears that while selection exerts in a general way the same favourable effect in Germany as in England, and in the United States, instead of being chiefly confined to the earlier years, as in the two last-mentioned countries, it influences the younger and older ages there, and only temporarily loses its force during middle life.

For more convenient reference, we have grouped in pairs the general and selected experience of each country. The Saxon and English life are both founded on census returns, which were collected with a degree of care that furnished reliable deductions. Unfortunately, however, the same cannot be said of our own census. Its inaccuracies were so gross and notorious, that it was only by adopting a thorough system of compensations that Mr. Meech was able to reach any satisfactory results. Nevertheless, the general correspondence is sufficient to show the operation of the same law in the selection of life in the three countries.

The general life of *Germany*, with the exception of two ages, 45 and 50, shows an excess of mort. above the insured life, the difference diminishing as age 45 is approached,

until the general mort. falls below the other for a period of about 10 years. After this, it again exhibits an excess, increasing up to age 80. So that during the entire period, with the exception of about 10 years, from 44 to 54, the German T. exhibit an excessive mort. on the side of the general pop. amounting to more than 12 p.c. during the earlier years, and more than 16 p.c. during the later years.

Comparing the *English* T. in the same manner, a like diminution of selected mort. is observed, extending over the entire period. Instead of the two mort. curves approaching each other, however, in middle life, and again receding, as in the case of Germany, they only begin to approach as old age comes on.

Comparing now the 3 countries, it will be observed that at the younger ages the mort. is least in Germany and greatest in America; during middle life, however, the three curves meet and cross, and for the older ages the rule is reversed—the mort. is greatest in Germany and least in America. English life maintains a mean position between the others—in other words, a more even flow. This law holds good both with the general and selected lives.

Important deductions may be drawn from these comparisons. The relative value of life in the 3 countries, most favourable to our own at the older ages, is strongly confirmed by the correspondence in each case between the general and selected mort. Knowing that North German life is a fair exponent of Continental Europe, we are forced to the conclusion that American insured life during the years usually covered by ins. has an essentially higher value than that of the European Continent. How far this difference may extend to the emigrants constantly finding their way to our shores, is a question deserving investigation. One other point is suggested. During the younger and middle ages, the general life of the two countries assimilates much more closely than the selected. The life current of the German nation, as a whole, during the usual insurance period, is by no means so widely different from our own as that of the insuring classes. In other words, selection in the two countries appears to exaggerate the peculiar features of each.

Not only is the underwriter better able to judge of the reliability of his own statistics, when thus compared with those of other countries; but in a case like ours, where the ranks of the insured, as well as of the gen. pop., are being recruited from a vigorous emigration, the effect of such an emigration on our national life becomes a deeply interesting and possibly an important subject of inquiry. Vital Statistics from all parts of the Union show that our foreigners have an excessive birth-rate distinctly their own. The statistics of this and other cities show that their infant mortality, too, is much less than that of native children. Do the same modified life laws follow our foreign population until time has eliminated their foreign character?

1877.—The *Prussian Annuity* Ins. So., founded in Berlin in 1839, recently changed its standard of valuation from $3\frac{1}{2}$ to 4 p.c., and announced its purpose, after Jan. 1st, 1878, to adopt the following Life Table:

Age.	Living.	Age.	Living.	Age.	Living.	Age.	Living.	Age.	Living.
0	100,000	21	81,597	41	68,721	61	51,754	81	13,412
1	93,496	22	81,027	42	68,025	62	50,413	82	11,475
2	91,782	23	80,435	43	67,330	63	48,996	83	9,655
3	90,360	24	79,428	44	66,638	64	47,502	84	7,964
4	89,157	25	79,196	45	65,945	65	45,929	85	6,422
5	88,147	26	78,561	46	65,249	66	44,265	86	5,049
6	87,302	27	77,925	47	64,546	67	42,506	87	3,880
7	86,606	28	77,297	48	63,827	68	40,656	88	2,926
8	86,049	29	76,675	49	63,086	69	38,727	89	2,168
9	85,620	30	76,058	50	62,317	70	36,834	90	1,583
10	85,302	31	75,440	51	61,513	71	34,684	91	1,137
11	85,093	32	74,812	52	60,679	72	32,595	92	801
12	84,926	33	74,171	53	59,825	73	30,477	93	553
13	84,739	34	73,516	54	58,956	74	28,334	94	372
14	84,524	35	72,849	55	58,070	75	26,169	95	244
15	84,266	36	72,172	56	57,153	76	24,000	96	155
16	83,943	37	71,488	57	56,219	77	21,834	97	95
17	83,561	38	70,800	58	55,238	78	19,675	98	53
18	83,128	39	70,109	59	54,174	79	17,536	99	26
19	82,652	40	69,416	60	53,010	80	15,442	100	11
20	82,140								

1878.—We had hoped to close this art. with the results of the investigation into the mort. of Insured Life in Germany, which has now been in preparation for a period of 10 years; but the work, which is a very heavy one, is not yet completed. All we can therefore do is to furnish the following details of the operation supplied to us by Herr Wilhelm Lazarus, of Hamburg:

The plan for collecting the Mort. Experience of the *German* Ins. Cos. dates from 1868.

A Committee was elected by the *Collegium für Lebensversicherungs Wissenschaft* [see 1868]. The detailed plan was adopted by the Committee March, 1869. The Cos. answer favourably to the plan. The cards are printed and sent out Oct. 1870. The Experience is to be given up to the end of 1870. The cards are coming in 1875.

In 1875 it was resolved to add to the cards the Experience up to the end of 1875.

At the end of 1876—19 Companies had sent in :

Healthy Lives	Males	282,402 cards ;	Females	101,317 cards.
Diseased Lives	"	75,899 "	"	25,601 "
Industrial Business	"	76,637 "	"	76,589 "
Without Medical Examination, } Endowment and Annuity	"	16,124 "	"	21,941 "
Total				676,510 cards.
New Experience since 1870				47,001 "
				723,511 "
Advised but not come in				16,000 "
Ditto from 2 Offices				149,000 "
				888,511 "
Total Lives under observation				

We look forward with great interest to the completion of this T., and shall hope to include it in our general art. MORT. T.

Military Service, Ins. against.—This branch of Ins. bus., so general in France, has not hitherto been permissible in Germany ; or rather perhaps we ought to say that the imperative demands of the Empire that its youths, without distinction of class, should pass through a term of military service, has left no room for the operations of such a Co. We observe, however, that in 1878 such an Asso. was founded in Hamburg, viz. the *Deutsche Militärdienst-Versicherungs-Anstalt*.

Mortgage Ins. (*Hypothekenversicherungs-Gesellschaften*).—The system of Mortgage Ins., mostly, we believe, in connexion with Building and Land So. operations, has taken root in Germany within the last 20 years. We have not been enabled to learn details of its magnitude. There are 2 Cos. in Berlin devoted to the bus., viz. 1. *Preussische Hypotheken-B. A. G.* founded 1862 ; and 2. *Norddeutsche Grundcredit Bank*, founded 1868.

Municipal Ins.—See sub-heading *State Fire Ins.*

Pig Ins.—In Ostrau, Moravia, there is an Ins. Co. for ins. against death of pigs from *Trichina*. The rates appear to average about 0.30 p.c. [PIGS, INS. OF.]

We believe other Pig Ins. Asso. prevail in various parts of Germany. See sub-heading *Special Applications of Ins.*

Postal Arrangements for Ins.—In the German Empire (as also in Austria) peculiar facilities are given for the remittance of ins. premis. at a nominal cost, by means of Postal Money Orders in the form of cards, the obtaining which simply requires the payment of the money intended to be remitted, with the price of the Postal Order Card, which card is addressed to the Ins. Office or agent (or other person) by the Post-office official. The object of the remittance is stated on the card, and therefore no letter is required.

But still further facilities are given by the postal system. The Cattle, as also the Accident Ins. Cos., send out to the public broadcast small policies in duplicate, to which are annexed forms of Ins. Orders addressed to the Cos. One of the duplicate policies is signed by the directors and manager and numbered, but is otherwise in blank. The person desiring to insure fills up his own name and description in the signed policy, and makes a duplicate of the accompanying blank pol. sent. This letter he remits to the office with a postal order for the prem. The transaction is thus completed from the moment of posting the remittance ; and all correspondence is avoided. How far the scheme will protect the offices from fraud remains to be seen.

Railway Ins. Cos.—This is a class of Ins. Co. almost peculiar, in some of their features, to Germany. The two first and principal Cos. were founded in 1853, under the direct authority of an Order in Council of His Majesty. Of these we give a brief outline.

1. *Allgemeine Eisenbahn Versicherungs Gesellschaft*—the General Railway Ins. Co. in Berlin—with a subs. cap. of 1,000,000 th. (£166,000 stg.), in 1000 shares of 1000 th., of which 10 p.c. was paid up. The objects of the Co. were twofold :

i. To insure railway managers for any loss and damage on movable and immovable property, or on articles and goods of all kinds to be forwarded by train, or to be kept at the stations.

ii. To insure passengers and railway officers against loss of life or personal injury ; and for loss on baggage. As to the details of the first branch of the bus. the prosp. was silent ; but respecting the 2nd class, the following interesting details are given :

Ins. on Persons.—These are granted (1) to railway passengers, either for single days, for 1, 3, and 6 months, for 1 or 5 years, or for the duration of life, along all the railways of Europe ; (2) to railway officers, only for the period of 1 year at 1 p.c.

The maximum to be insured on a passenger was 7000 Pr. th. (£1150); by a railway official £160. Claims were to be settled on the following scale :

Up to	100 p.c.	in case the accident caused death immediately, or within 30 days.
"	$\frac{1}{3}$ p.c.	" " incapacity to work for 8 days.
"	$6\frac{2}{3}$ "	" " " for a longer time.
"	$33\frac{1}{3}$ "	" " loss of limb, or lasting serious damage to health.
"	$66\frac{2}{3}$ "	" " total incapacity to work.

The scale of prem. was complicated, and appeared to be higher than that charged for ins. against like injuries in Gt. Britain. For an ins. during the whole of life of a person aged 20, 10 p. mille (viz. 1 p.c.); age 45 years, $6\frac{2}{3}$; 55 years, 5; 60 years, 4.

Ins. on Baggage.—These ins. only lasted for 1 year, and include all baggage of the passenger insured, delivered to the administration of the railway, and for which a receipt is given. The sum insured and the claims were fixed according to the weight of the baggage: each pound either at 3 th. or 5 th. according to the wish of the passenger—the minimum rate being 2 p. mille.

2. *Eisenbahn und Allgemeine Rückversicherung G.*—the Thuringia Railway and General Re-assurance So. in Erfurt—with a subs. cap. of 2,000,000 Pr. th. (£332,000), in 1000 shares, of 2000 Pr. th., with 20 p.c. paid up. The objects of the Co. were threefold :

i. To insure railway managers for any loss and damage on movable and immovable property, or on articles and goods of all kinds to be forwarded by train, or kept at the stations.

ii. To insure railway officers and workmen, their wives and children, and likewise railway passengers, for any personal injury or for loss of life.

iii. To grant re-ins. to Ins. Asso. of all branches.

The details available relate to the 2nd class only, and bear resemblance to the preceding Co. Passengers might insure for 1 or 2 days; or for 1, 3, or 12 months; the maximum sum covered was 6000 th. (£1000). Railway officers were divided into 4 classes, and might insure for one year only :

Locomotive Conductors, Firemen, etc.				} Maximum sum 1500 th. (£240).
Train Conductors	.....	.....	.....	
Directors, Engineers, Railway Post Officers, etc.	.....	.....	.....	
Station Officers, Booking Officers, Telegraphists, etc.	.....	.....	.....	

The indemnities to be given were specified as follows : In case of injury the expenses of medical attendance and nursing; and 50 p.c. of the lost earnings given—up to 10 p.c. of ins. in case of external or internal injury, and up to 15 p.c. in case of external and internal injury. In case of mutilation :

75 p.c. for loss of both arms or hands, or both feet, or total loss of eyesight.

60 " " of the right arm or hand, or the right eye.

50 " " of the left arm or hand, or one foot.

30 " " of the left eye.

100 " in case the accident causes death immediately, or within 2 months.

With many other details extending to various combinations of injuries. The rates again appear high in relation to those charged in England.

In addition to the above there was also established this year in Cologne, the *Concordia Life Assu. So.*, which, in add. to its other features (already spoken of under *Life Ins.* in this art.), ins. against loss of life and personal injury to passengers, caused by accidents of travelling. The Ins. in this department was granted for all journeys of the insured during a certain period, within the bounds of Europe, at sea and on land, by steam navigation, by railway, or other conveyance. The prem. : for 1 month $\frac{1}{4}$ th. p. 1000; for 3 months $\frac{1}{2}$ th.; a year 1 th. p. mille. In case of accident, 100 p.c. paid in case of death or total incapacity to work; up to 50 p.c. in case the insured is obliged to choose another occupation, or in case of lasting consequences; up to 25 p.c. in cases of less importance. By the end of 1855 the Co. had insured in this class sums amounting to 3,347,000 th.

1855.—There was pub. in Leipsic, by Herr Freiherrn von Weber, a work : *On the Life Assu. of Railway Passengers, together with the Relief and Pensions to Railway Servants and their Dependents.* The author desired to introduce the compulsory ins. of passengers against railway accidents, and to employ the income from prem. not only to cover such losses, but also to provide for the relief and pensioning of railway officials, their widows and orphans. His scheme was to regulate the prem. in relation to the travelling charges.

1871.—The United Private Railway Sos. estab. among themselves a Mut. Ins. Asso., granting up to the amount of M 15,000 (£750) for each person killed or injured through default of the Railway Co. This applied to passengers only, and not to the officials of the lines.

This Asso. was formed in consequence of the Law of this year, of which we have already spoken under *Accident Ins.*

The working of this Law, as applied to the railway officials personally, is said to give very great satisfaction.

1875.—According to the Statistics of the *Reichs Eisenbahnamt*, embracing all the German railways, with the exception of Bavaria, the proportion of persons injured at this date was as follows :

<i>Passengers</i> —Killed	1	out of every	11,402,067	travelling.
Injured	”	”	2,443,300	”
<i>Officials</i> —Killed	”	”	648	”
Injured	”	”	161	”

Re-insurance (*Rückversicherungs-Gesellschaften*).—Ins. Cos. specially founded for sharing the risks of other Ins. Asso., and taking no direct bus. from the public, appear to have originated in Germany [the claim is sometimes made for France]; the first of the existing Cos. of this class dating back to 1843.

It is mostly in connexion with Fire Ins. that Re-insurance Cos. prevail; but they are also estab. for Transport and Marine Ins. bus.

1851.—In a communication to the *Assu. Mag.* (vol. ii. p. 193), made prob. by Herr R. G. Hopf, about this date, there occurs the following passage:

Amongst the younger [Fire] Cos., as well as amongst some of the older, it would be no more than prudence would require if endeavors were made to augment the cap. *One of the strongest reasons for this conclusion is the acceptance of such heavy risks, that they exceed 3 or 4 times the proper average which they could afford.* The consequence is that re-assurance, which affords the best means of covering such chances, has come into general use. Some of the younger Cos. protect themselves by it to a very great extent. The re-assu. prem. of the *Magdeburger* exceed a fifth part, and of the *Schlesische* more than a third part of all their prem.

The question has often been raised as to whether these Cos. are of real advantage to the bus. of Ins. or otherwise. The answer must depend very much upon the manner in which their affairs are conducted. If they allow themselves to follow blindly, by obligatory treaties, the judgment of the underwriters whose risks they endorse, they will almost inevitably share the fate of the “feeding” Cos. Where they exercise any option, it can only be upon the risks offered,—the parent Co. thus making a selection against the Re-insuring Co. Where the Re-insurance Co. receives risks from the several offices, it may succeed by reason of the good risks outnumbering the bad ones. And it has followed in several cases that while the original Co. has had to succumb, the Re-insurance Co. has continued to thrive. The whole subject will be considered more in detail under the general title of RE-INSURANCE.

The following is, we believe, a complete list of the Re-insurance Cos. of Germany, as at the end of 1878:

1843. Rückversicherungs-Ber. d. niederrhein Güter-Assecuranz-Gesellschaft; in Wesel.

1846. Kölnische Rückversicherungs B.-G.; in Cologne.

1852. Aachener R.-B.-G.; in Aachen.

1857. Frankfurter R.-B.-G.; in Frankfort-on-Maine.

1862. Magdeburger R.-B.-G.; in Magdeburg.

1864. Sächsische R.-B.-G.; in Dresden.

1868. Hamburg-Bremer R.-B.-G.; in Hamburg.

1869. Rheinisch-Westfälische R.-B.-G.; in München-Gladbach.

1870. Allgemeine R.-B.-A.-Bank; in Frankfort-on-Oder.

1872. Leipziger R.-B.-A.-G.; in Leipzig.

” Magdeburg Allgemeine B.-A.-G.; in Magdeburg.

” Deutsche Rückversicherungs Bank; in Frankfort-on-Maine.

1873. Rückvers.-Ber. d. Ges. “Agrippina”; in Cologne.

1876. Transatlantic Rückvers.-Ges.; in Hamburg.

1877. Gladbacher R.-B.-A.-G.; in München-Gladbach.

1878. Re-assecuranz-Company of 1878, in Hamburg.

Relief Sos.—These, sometimes designated “Industrial Relief Funds,” and sometimes “Journymen’s Relief Sos.,” have been spoken of in detail under *Friendly Sos.*

Special Applications of Ins.—In Germany a true appreciation of the adaptability of Ins. has been shown: greater perhaps than in any other country save China. If any misfortune is found liable to affect injuriously any considerable number of persons, they combine and seek protection against it by means of Ins. Hence Germany has not only become the pioneer in several of the branches of Ins. which are now common in other parts of Europe; but she is still active in the same direction. The latest manifestations are:

1. A Mut. Ins. amongst the pork-butchers against loss from bad or “trichine” infected meat.

2. A Mut. So. amongst agriculturists, for ins. themselves against loss from any inferiority or adulteration in the artificial manures they may use.

We believe each of these Asso. took its rise in 1877.

State Ins. Asso.—It was in Germany that the system of State and Municipal Fire Ins. took its rise: a fact which we have already made sufficiently clear under sub-heading *Fire Ins.* The incident is of much significance in the hist. of Ins. generally. By means of these State and Municipal funds, the bus. of Fire Ins. was carried on in Germany for nearly a century before it was known in other parts of Europe. It would seem that what we have here designated, for distinction sake, Municipal Funds, are really Gilds, composed of the owners of property (*Immobiliar*) and goods (*Mobiliar*) resident in any given locality. Thus we have 1. *Staats Anstalten*, or Public Ins. Offices, carried on by the State; and 2. *Privat Gegenseitigkeitsanstalten*, Mutual Asso., or Gilds. In the

one case the State insures the people, at the cost of the people ; in the other, the people insure themselves and each other. We have already given some details concerning these under sub-heading *Fire Ins.* 1878.

Statistical Bureaus.—There exist in most of the principal Provinces of the German Empire, State Bureaus, having the especial function of collecting statistics upon all points affecting the moral, social, educational, manufacturing, and sanitary condition of the inhabitants. One of the most widely known of these departments is that (now or lately) under the superintendence of Dr. Engel in Berlin.

Many of these departments have prepared Mort. T. deduced from the data of their respective localities. These have not been used in connexion with the operations of Life, Annuity, or Tontine Asso., and indeed have no uses assigned to them in connexion with LIFE CONTINGENCIES. See sub-heading *Mort. T.*

Taxation of Ins. Asso.—There is a very small stamp required on the Licence to do business in *Prussia*—15 silver-groschen (under 2s.). But all Stock Cos. organized in *Prussia*, as also all commercial asso and individuals engaged in bus., are required to pay an ann. "Industry Tax." Mutual Asso. are exempted from this, on the ground that, being organized for mut. benefit and protection, they have no interest in the profits. *Foreign Cos.* are also exempted, on the supposition that they pay the same tax where their home office is located.

The mode of assessing this Industry Tax is peculiar. All large commercial asso., bus. houses, or industrial estab. in the same district constitute the highest class, viz. A 1., and the basis of the tax is procured by multiplying the number of such estab. by 96 thalers. Having obtained this basis, it becomes necessary to apportion the tax so that each will pay in relation to the bus. done and the profits made : and for this purpose a committee is elected by the members whose duty it is to arrange the apportionment properly. *For Ins. Cos. the bus. done in Prussia only is taken as a basis in estimating their contributions.*

Pol. on which the prem. exceed 50th. require a stamp equal in amount to one-half of 1 p.c. (0.50) on the prem. This falls on the insured.

In addition to these duties payable to the State Gov., the Home as well as the Foreign Cos. have to pay a tax on *their net profits to the cities wherein agencies are located.* The net profits for each agency being considered such a proportion of the total net profits of the Co. as the amount of prem. received at the agency bears to the total prem. receipts of the Co.

The rate of taxation varies in different cities. In *Berlin* it is 3 p.c. In *Hamburg* Stock Cos. pay no duty : it being assumed that the shareholders pay their tax upon the dividends they receive in their contributions to the general income tax.

The *Pedlar Tax* formerly charged to life agents who canvassed for bus. was abolished in 1875.

Tontine Asso.—Tontine Annu. and Life Ins. schemes do not appear to have taken root in Germany, as they have done in the neighbouring country, France. The records regarding the attempts which have been from time to time made are very meagre, but we can only present them as they are.

1847.—The *Baierische Hypotheken und Wechsel Bank in München*, founded this year, had a Tontine branch, but the results of its operations we do not find recorded.

1851.—The first of the South German Life Ins. Cos. which granted Tontine Ins. was the *Assicurazioni Generali* of Trieste, which commenced the bus. this year, and by 1855 had issued 2422 pol. of this class.

1853.—The *Concordia* Life, etc., estab. at Cologne this year, had a Tontine class as follows : Children born in the same year are united in one class of Tontine, and the accumulated cap. [fund] is divided when the children have passed the age of 21 years. The first division took place in 1867 among persons born in 1845. The Co. charges 5 p.c. for expenses of management, deducting it from the payments, and grants compound int. at 3½ p.c. The other arrangements were made after the plan of the French Tontines.

At the end of 1855 the Co. had issued 10,173 pol. in this class.

1855.—The *Capital und Lebensvers. Bank, Teutonia*, founded at Leipsic this year, commenced to issue Tontine pol.

Union of German Ins. Asso. (*Vereins Deutscher Lebens-Versicherungs-Gesellschaften*).—This Asso. originated in a combination of the Managers of the principal Life Offices for the purpose of protecting the common interests of their bus. The good services it rendered in this connexion have been made apparent in various portions of this art., vide *Legal Requirements, Medical Selection* [Life Ins., Practice of], *Vaccination* [Vital Statistics].

More recently the Union has been augmented by the combined Managers of the German Fire Ins. Offices ; and later by the International Transport Ins. Alliance.

The organ of the Union is the *Vereinsblatt für Deutsches Versicherungswesen*, which appears monthly.

Vital Statistics.—In a socially progressive country like Germany, the Vital Statistics become of much interest, and afford valuable data for comparison with those of our own country, of France, and the other countries of Europe ; as also with the U.S. The industrial and mercantile habits of the people, in many parts of the Empire, being analogous to those of our country, makes the comparison still more valuable. We propose therefore to take a brief survey of some of the main questions of interest.

In Germany the class of inquiries following under this head has taken a very wide range. And it is appropriate to bear in mind that the very term "Statistics" appears to have been first applied—indeed, first used—by Prof. Achenwell, of Göttingen. But even before this time there were German writers who, by means of induction from authenticated facts, ascertained the condition of man, as existing in society. Statistics too, as a language in which social economy finds expression, may be said to owe its origin in a great measure to Germany.

In 1741 Herr Sussmilch first pub. his *Göttliche Ordnung*, wherein the Divine Order, as exhibited in the changes to which the human race is subject, was fully discussed. The later eds. of that work are very constantly referred to in the present art.

It will be more convenient to arrange our topics under distinct headings, placed in alphabetical order.

Army.—From statistics pub. in Germany regarding the health of the Prussian Army, during the years 1867-9, it appeared that the average yearly rate of mort. was 6·4 p. 1000; and in the Saxon Army also 6·4 p. 1000; while in the *English Army*, during the years 1871-4, the rate was 8·4 p. 1000; and in the *French Army*, 1872-4, 8·7, while in earlier years (1862-9) it had been 10·1. In the *Belgian Army*, 1870-4, it was 10·7; in the *Italian Army*, 1870-6, 11·6; in the *Portuguese*, 1861-7, 12·7; in the *Russian*, 1871-4, 14·7; and again in the *Belgian Army*, 1862-6, no less than 20·3. The comparatively small mort. in the *Prussian Army* is attributed not only to the favourable climate, but also to the care taken with regard to the food, clothing, and general well-being of the soldier.

1875.—According to official reports for the month of December, this year, the number on the sick list in the Prussian, Saxon, and Wurtemberg Army was 29,071, or 8·1 p.c. of the whole number. The number of deaths from natural causes was 113. Of this number 31 died of typhus, 22 of consumption, 11 of inflammation of the lungs, that is, more than half the deaths were from these three diseases. The number of suicides was 23, and of accidental deaths 3, so that the whole number of deaths in the army was 139. The reasons for the suicides are not given, but their great number is serious, as well as the great number of deaths from diseases of the lungs. The suicides would seem to have been 16½ p.c. of the whole number, and those from consumption 15 p.c. See *Suicides*; also *Education*.

Births.—In 1835 M. Hoffman, Director of the Statistical Bureau, of Berlin, gave a statistical view of the births and deaths in the Prussian States during the 15 years 1820-1834. The ann. numbers of births and deaths, with distinction of the sexes, and the mean number of people without that distinction, during that term were given. Also the number of deaths during the same term, with distinction of the sexes, between birth and one year of age completed, between 1 and 3, 3 and 5, 5 and 7, 7 and 10, and then in each quinquennial interval of age to 90, and those above 90. But the intervals of age into which the people were distributed in the Prussian census enumerations appeared not to have been sufficiently minute to admit of their being available for determining the law of Mort. This elaborate paper was reprinted (translated) in the *Trans. of the Statistical So. of London*, 4to. 1837.

The numbers and proportions of births in more recent years will be given under sub-heading *Pop.*; see also *Deaths*; *Marriages*.

The births of *still-born* children are regis. in Germany; and these are distinguished in the returns.

Census.—The Census in the German Empire is taken triennially, and discloses many facts of high interest. These will be reviewed under sub-heading *Population*. The last census of which returns are at hand was that of 1875.

Cholera (Asiatic).—Germany has suffered from severe visitations of this character on several occasions; notably in 1831, before the epidemic reached England. The influence of that visitation in helping forward the then budding *Gotha Life* has been already noticed under *Life Ins.*, this date.

This year (1831) Herr J. C. B. Langhenie pub. in Hamburg: *Planeinrichtung der Grundsätzen der Gegenseitigkeit zu errichtenden Lebensversicherungs-Anstalt gegen die Gefahr der Asiatischen Cholera*. This was one of the earliest works on the subject of Cholera as affecting Life Ins. Inst. pub. in Europe.

Consumption (Phthisis).—In the *German Quarterly Journal of Public Health* (vol. 4, pt. 4, Brunswick, 1874), Dr. Cless, of Stuttgart, suggested an improved method of treating the statistics of phthisis. He points out that the usual way of stating the death-rate to pop. is erroneous. The chief fluctuation in the general death-rate is due to children of one year and under—varying in Wurtemberg, for instance, in different places, between 28 and 56 p.c. of total deaths. Now, among these infants, phthisis is almost totally unknown; and it is also a rare disease up to 15 or 16 years of age. Therefore the death-rate of phthisis ought properly to be stated with reference to pop., and general death-rate above 15 years of age.

Contagious Diseases.—In the Sanitary Report on the Kingdom of Bavaria (1874),

Dr. C. E. Majer mentioned that syphilis had greatly diminished in the few preceding years, in consequence of the more careful application of the police regulations for its prevention, such as the registration of prostitutes, and weekly inspections by the police surgeons.

Deaths.—Mortuary Registers have been kept in Germany from a very early date—in certain cities from the 15th century or earlier; but this process of Municipal regis. is very different from the system of general or State Regis., which has grown up during the present century, and has involved a scientific nomenclature of the highest value, where it has become effective.

The more modern rate of mort. will be shown in the T. which we shall furnish under *Pop.* alike for *Prussia*, and for the German Empire.

1866.—The ann. rate of mort. for the whole of Prussia at this date was 29 p. 1000, which was high. It ranged from 25 in the Rhine Provinces up to 36 in Prussia proper.

1873.—Tables of the marriages, births and deaths in the German Empire, during this year, were pub. in the *Statistical Quarterly* of the German Empire. The number of deaths during the year 1873 (inclusive of still-born) was 1,241,120, that is, 30·026 p. 1000 of the inhabitants. The number of deaths during the year 1873 was 19,802 less than in the preceding year. Of the different territorial divisions or districts, Oberbayern had, in proportion to the pop., the highest rate of mort. for 1873, or 41·3 p. 1000, and the government district, Stralsund, the lowest, namely, 21·3 p. 1000.

The districts with a ratio above the average were Bromberg, Schwabia, the Donau Circuit, Königsberg, Marien Werder, Magdeburg, and Arnberg, which, taken together, had a ratio of more than 34 p. 1000. Below the average were Schaumburg-Lippe, both the Mecklenburgs, Schwarzburg-Sondershausen, Cöslin, and the Oldenburg principalities of Lubeck and Birkenfeld, which had together a ratio of 24 p. 1000. Of the deaths, 647,207 were of the male sex (being 52·1 p.c.), and 593,913 of the female (or 47·9 p.c.).

—*Deutsche Versicherungs Zeitung.*

Deaths, Causes of.—It has long been affirmed that the causes of death in the German Empire are very inefficiently recorded. Several reasons have been assigned: 1. There is no Coroner, or corresponding officer, to hold an official inquiry in view of determining the actual specific cause of death: hence a loose practice of recording approximate causes only, and frequently (as must be obvious) of hypothetical ones, has grown up. 2. In the public inst., as hospitals, prisons, pension houses, etc., the utmost laxity as to causes of death prevails. 3. In private practice too great laxity prevails; and there being no fear of a post-mortem examination, the Doctor too often fills up the certificate of death (*Todtenscheine*)—without which no person can be buried—more with regard to the easy earning of his fee (3s.) than with any regard to scientific accuracy. We are stating these facts upon what we deem quite sufficient authority.

In view of this state of matters, Dr. A. Oldendorff, of Berlin (who has made mort. statistics his particular study), in 1874 delivered before the German So. for Public Sanitary Administration a lecture of great merit (since pub.), wherein he suggested that the returns of deaths in the various Life, Friendly, and Burial Sos., and regarding which much greater exactitude was required, might be made available for investigation in future.

He thought from these much more correct returns of the causes of death might be obtained; and so, in process of time, the action of maladies, taken in relation to age, sex, climatic conditions, constitutions and temperaments, physical conditions (such as weight, stature, muscular and organic development, etc.) would come to be better understood, to the great enlightenment of science, and ultimately the material benefit of society at large. He estimated the number of deaths among the members of Life Ins. Asso. at 400,000 p.a.; and for details regarding these he had devised elaborate schedules for use by the offices, wherein the occupation of the deceased was made a very special feature. [See *Occupations*.]

In return for the trouble so taken by the Life Offices he thought there would be corresponding advantages; and here we may give a translation direct from the author:

On the one side it may be readily apprehended that it is to the vital interests of the institutions themselves to obtain full and exhaustive certificates; and on the other that the holder of the pol. is compelled in support of his claims, and compliance with Ins. conditions, to bring forward all the documents required for the regulation of the ins. that is terminated by death. The Directorial Doctor of the Co. is therefore enabled to reject unscientific and vague definitions of illnesses; to substitute correct certificates for insufficient ones; and in case of need to form for himself, out of the documents submitted to him, a tolerably clear apprehension of the mortal illness in question. A great merit of such material (as these reports) is its function of detection, as far as especially unhealthy districts are concerned, to which it cannot fail to call the attention of the sanitary authorities. . . .

The estimation of life risks demands a much sounder basis than it at present possesses. Many lives might be accepted that are now rejected, were their chances accurately calculated from irrefragable data; many losses avoided by a correct understanding of the averable probabilities attending certain constitutional and physical conditions. For instance: given average health conditions, average amounts insured, and so forth—consideration is seldom accorded by Ins. Offices to the different chances of death from the mere circumstance of sex. And yet mort. is greater amongst men than women—that is, between the ages of 10 and 40; after which it is the other way. Supposing a Co. to have insured, for largish sums, a considerable number of young female lives: it would certainly do wisely to proceed with great caution in accepting more lives in that category—especially if the ins. should be of a heavy description. The difference of the mort. proportions between the sexes should

certainly cause the insurers to look very closely into the respective magnitudes of the dangers incurred in the risks they accept, as regards classifications of age.

Each Life Ins. Inst. he thought should divide its mort. experience into 3 classes :
 1. General characterization. 2. Special characterization. 3. Fluctuations or comparative numbers (*Zahlenverhältnisse*). See *Mort. Obs.*

1874.—This year an important set of T. illustrating the *Causes of Death* were pub. in *Berlin*, respecting which we can only furnish the following details :

The Statistical Bureau of Berlin has completed its Mort. T. for the years from 1869 to 1873 inclusive. There are 100 T. for each year, 1 general T., and 99 special, in which the 30,000 cases of death, or thereabout, that have occurred during this period, are exhibited in a more complete manner, than has ever been attempted in regard to the pop. of any other large city. Medical men will in these T. find rich materials for their investigations. The general system under which this comprehensive undertaking has been brought to a conclusion is the one devised by Dr. Virchow, about 4 years ago. Under this system diseases are distributed into 138 groups, and all cases of death are assigned, in respect to their cause, to one or the other of these groups. In fact, however, the police returns, the basis upon which the statistical T. are made up, recognize 800 or 1000 distinct causes of deaths. The number of different causes thus assumed by the police, and the large number of deaths occurring every year, being taken into consideration, some idea may be formed of the colossal magnitude of the task that has been accomplished by the Bureau. The speed with which the work has been performed is due, as is stated upon authority, to the method upon which the labours have been conducted, a method contrived by the present management of the Bureau.

Education.—Germany has long been famous for its Educational system, which has afforded a model to many parts of the world. The success in life, socially and commercially, of the youth of Germany, is due very much to this cause. The education too is physical as well as moral.

The Education test is here applied in regard to young men entering the Army and Navy ; and it is a severe one.

The Number of the official *Central Journal for the Educational Administration* in Prussia for Nov. 1878, pub. the usual report on the educational *status* of the recruits selected in Prussia during the year 1877-8 for the Army and Marine services. According to this, the province of Posen has the unenviable distinction of furnishing the highest proportion of uneducated recruits. Of its 5971 recruits, 669, or 11 p.c., were uneducated. In the two provinces of East and West Prussia, 929 out of 11,864, or 7 p.c., were in the same category ; while in Silesia there were only 313 out of 14,084, or 2 p.c. The percentage diminishes then notably :—Pomerania, 0'943 ; Westphalia, 0'525 ; Hanover, 0'424 ; Brandenburg, 0'411 ; Schleswig-Holstein, 0'407 ; the Rhine Province, 0'315 ; Saxony, 0'293 ; Hessen-Nassau, 0'173. Among the old provinces of the kingdom, Saxony continues to hold the foremost place in the general diffusion of education among its people. Of the 7167 recruits which it contributed, only 21 were classed as "without education."

Houses (Dwellings).—The German Sanitary Asso., a very extended organization, has not confined its operations solely to what are usually designated considerations of Public Health. Its members have paid much attention to the dwellings of the people ; and some very remarkable facts have resulted from the observations so made. In one district of the city of *Berlin*—Friedrichstadt—it was found that no less than 78 p.c. of the houses newly built had rooms designed for occupation below the level of the ground. In the old part of the city only 16 p.c. of the houses were so constructed. The mort. experienced by the occupants of cellars was much above that of the general average of the people. No less than 60,000 houses in this city had been found to be overpeopled ; and 290,000 persons lived in tenements, of which only one room could be warmed. These details were presented at the Congress of the Asso. held at Dantzig in 1874. On which occasion, too, Dr. Schwabe, of Berlin, presented the following statement of the mort. experienced on different floors of houses :

The deaths in cellars, 24'5 p.c. of the whole number ; on the first, or ground floor, 22'3 p.c. ; second floor, 15'5 p.c. ; third floor, 21'2 p.c. ; fourth, 22'2 p.c. ; fifth, and stories above, 27'8. From these figures it would seem as though the second story, or beletage, as it is called in Germany, was far the most advantageous, so far as the health is concerned. This was not, however, true to the full extent indicated by the figures, because the difference in the mort. was partly due to the better circumstances in other respects of the occupants of the beletage : this story being considered as the most desirable and being occupied by persons of ample means. Nor, on the other hand, did the mort. returns do full justice to the unwholesomeness of the basements. It was a maxim in Berlin, that one must live in a basement in order to get to be a freeholder. The underground pop. is in a large measure made up of very good material. The basements are occupied to a large extent for restaurants, by grocers, wine-dealers, small shop-keepers, tailors, shoemakers, and tradesmen. The journeymen, servants, menials, and other people of the poorer classes who are subjected to greater or less privations, live on the upper stories. Hence, even the high rate of mort. returned for the basements did not

fully represent the injurious effects of inhabiting such places. Some of these effects were exhibited by the investigations which had been made into the course of epidemics in Berlin during the last 20 years. It had been found that epidemics were more frequent and of greater intensity among the occupants of basements than with the rest of the pop. Many other facts of much interest were adduced.

1876.—The Berlin police were stated to have under consideration the adoption of a new police regulation. It had been prepared with especial reference to hygienic requirements. The number of stories and the height of buildings hereafter to be erected will be considerably restricted, and the occupation of cellars for dwellings will be prohibited. The last provision in particular would be of great benefit to the sanitary condition of Berlin. In Paris the height of buildings allowed has for a long time been regulated according to the width of the streets upon which they front. It is extremely important that a similar ordinance should be adopted for the city of Berlin, and indeed all other cities.

Infant Mort.—In Germany, Baby-farming is aptly called “Angel-making.” Preventive checks are very common. Ins. of children is not carried so far as in the U. K., *vide* Mr. J. A. Crowe’s evidence before Royal Commission on F. Sos., 3rd Rep. p. 7.

We have not seen any statistics of Infant Mort. for the whole Empire. The births of still-born children are regis.; but the numbers of this class are kept distinct.

Industrial Communities.—These are springing up in various parts of Germany. Dr. Beyer gives an interesting account of what he designates “Workmen’s Colonies” at the great factory of Krupp, at Essen, where about 12,000 persons were (in 1874) employed. Five large villages had been erected, with barracks for single men, and proper dwellings of from 2 to 4 rooms for married people. Every attention appeared to be paid to sanitary points in the matter of house ventilation, water supply, drainage, etc. Schools were also erected, each room of which is carefully ventilated, and the heat regulated by means of thermometers. Shops were also provided for all necessary articles, also an hotel, numerous beer-shops and eating-houses, a seltzer-water manufactory, and steam flour-mill, and steam bakery, making white and black bread. An extensive slaughter-house was being erected on modern scientific principles; and also a disinfecting house on the English system.—*German Quarterly Journal of Public Health.*

Longevity.—Germany has not, speaking generally, been famous for the extreme longevity of its inhabitants, although a considerable number of aged people are met with in all parts of the country.

In the Census of 1875 there were found to be living in Berlin 12,251 persons who were born before the end of the last century. Among them 3 men and 6 women were 91 years old, 4 men and 9 women 92 years, 1 man and 5 women 93 years; 10 persons were 94 years of age, 4 women were 96 years old, 2 men and 2 women 97, 1 man 98, 1 woman 99, and another woman 101. Of the persons between 90 and 100 years of age, 5 were unmarried, 5 married, 57 widowed, and 1 divorced. But the proportion these bore to the entire pop. of the city was not stated.

Marriages.—The earliest records we find of the number of persons annually married in Prussia begins with 1816. In that year there were 234,896 persons married; 1820, 219,250; 1825, 224,342; 1830, 221,068; 1835, 247,906; 1840, 264,562. The increase is here seen to be steady; there have been no violent fluctuations.

The latest statistics upon the subject will be given under sub-heading *Population*.

In a comparison of the proportion of married persons in the populations of the different countries of Europe in 1878, Germany ranked only 7th in the list. To 1000 persons in each country, there were in Hungary, 6475; in France, 5566; in England and Wales, 5398; in Austria, 5271; in Italy, 5270; in Denmark, 5191; in Germany, 5107; in Norway, 5065; in Sweden, 4952; in the Netherlands, 4948; in Scotland, 4678; in Belgium, 4634; in Switzerland, 4582; and in Ireland, 4313 married.

Mining.—In 1849 there was pub. a T. showing the casualties which had occurred to the workmen engaged in the Prussian Mines during the 9 years 1841–9 inclusive, as contrasted with those in the Belgian mines—the results being as follow:

Prussian Mines.—Aggregate number of miners employed over the entire period, 407,416; aggregate number of casualties, 696. Ann. average of miners, 45,268; ann. average of casualties, 77·3; per-centage 1·71—ranging from 2·15 (highest) in 1841 to 1·29 (lowest) in 1843.

Belgian Mines.—Aggregate number of miners employed over the entire period, 379,526; aggregate number of casualties, 608. Ann. average of miners, 42,169; ann. average of casualties, 67·6; per-centage, 1·60—ranging from 2·20 (highest) in 1841 down to 0·75 (lowest) in 1843.

1868.—The statistics of the health and lives of persons engaged in Mining in Germany are as yet very scanty. At the three great centres of mining industry in Germany, Saxony, Westphalia and Silesia, carefully detailed statistics upon this subject have been taken. Those of Silesia, which were pub., give the following results:—The statistics covered 30,723 active members of the mining union, with 18,888 women and 39,122 children.

During the year (1868) to which these statistics have reference, the weather was particularly favourable. There were 12,243 cases of sickness among the males, or 39·8 p.c., while the ratio of sickness the previous year, 1867, was 45·6 p.c.; of the females there were 9733 or 50·1 p.c.; and of the children 20,486 or 52·3 p.c., who received medical treatment during the year. Both women and children work in the mines in Germany. The mort. of the males was 220, or 1·8 p.c. of the number sick; of the females 261, or 1·4 p.c.; of the children, 2291, or 5·8 p.c. Of the 12,243 cases of sickness among males, 4576 were external diseases, of which 2473 were the results of wounds (1033 bruises, 642 wounds, 326 broken bones, 264 burns) and 68 from poisonous gases. See sub-heading *Friendly Societies*.

Mortality Statistics.—Numerous and continuous observations have been made on the pop. of Germany, from the days of Sussmilch downwards, in view of determining the Law of Mort., and other problems social and scientific resulting therefrom. Many of these have been already referred to in this art., under *Life Contingencies*, *Mortality T.*; others will be referred to under *Population*, in this section of our subject. Among the more recent scientific writers may be enumerated Moser, Fischer, Zillmer, Wiegand, Knapp, Scheffler, and Beneke. The works of all of these have been referred to in their proper places; and we do not therefore intend to pursue the subject further here.

1851.—Prof. Beneke pub. a pamph. urging the collection of uniform mort. statistics for all Germany.

More recently, not only has the German Sanitary Asso. paid much attention to mort. statistics generally, but, equally important, the representatives of Medical and Physical Science are working earnestly in the same direction.

1873.—Dr. A. Oldendorff pub. a paper: "The Mort. from Phthisis among Persons Insured in German Life Offices," wherein he made it clear that the means of more extended observation upon the ravages of this disease among the entire pop. was necessary.

1874.—The same writer read before the German Sanitary Asso. of Berlin a paper wherein he clearly demonstrated the value of the returns of Life Ins. Cos. for the purposes of Sanitary Science and Health Legis., in the absence of national records. He had obtained such returns from many of the leading offices.

At the meeting of the last-named Asso. held in Breslau this year, it was—with peculiar fitness, having regard to the part played by the early death regis. of this city in connexion with the science of Life Contingencies—

"Resolved, That the section of the 47th convention of the medical and scientific men of Germany on public health recommends that a petition be drawn up and signed by the members of the convention, and be presented to the Reichstag; that in said petition the passage of a general law be urged for the appointment, throughout the Empire, of properly qualified officers to take cognizance of deaths. The duty of these officers shall be to investigate the causes of all the deaths that occur, and enter them in a general register, which is to be kept in the same form in all parts of the Empire."

Such an uniform law was stated to be much required. As compared with the rest of Germany, the statistics of mort. are managed the most admirably in *Hamburg*. All cases of death in that city, without exception, are submitted to the examination of regular physicians. A medical inspector is appointed, whose duties are those of a general health officer, and who is expected to make a report at certain fixed intervals. In Baden and Saxony the regis. is attended to by laymen, and their certificates are only based in part upon medical examinations.

At the sitting of the Permanent Commission of the International Statistical Congress, held this year, the same question was considered, and was referred to Prof. Kőrösi. In a preliminary pamph. which he prepared, he urged the importance of preparing the people to co-operate, by popularizing the subject. He saw no reason why an efficient system of inquiry and regis. should not be adopted in Germany as in other countries. See *Deaths, Causes of*.

1875.—A Bill was introduced to the German Parl., the object of which was (1) to render obligatory the ascertainment of the cause of death, and (2) to secure an efficient regis. of the same, on a uniform national plan. This measure was not adopted, and much disappointment was felt.

A Commission which had been appointed to devise a new method of collecting the medical statistics of the Empire presented its Rep. this year; but the same was not regarded as satisfactory.

This year Dr. F. W. Beneke pub. a work, of which the translated title is: *The Requisites for the Collection of Mort. Statistics*, wherein the whole question is treated in a very masterly manner. The systems of registration and inquiry adopted in each of the countries of Europe were set out, and their respective merits and disadvantages criticized.

We trust that whenever a system of regis., and of mort. statistics, separate or combined, shall be adopted in Germany, it will be worthy of the wide consideration which has been devoted to its development. See *Deaths, Causes of; Occupations*.

Occupations.—The question of the occupations of the people, and of the influence of those occupations upon their physical, social, and moral condition, always constitutes an important branch of Vital Statistics. This has been made clear in various portions of the present work, and especially in our article CONSUMPTION. In Germany this branch of

inquiry has received careful investigation, at the hands of Hirt, Eulenberg, and others ; and more recently from one very competent investigator.

1877-8.—Dr. Oldendorff pub. during these years his work in two parts : *Der Einfluss der Beschäftigung auf die Lebensdauer des Menschen nebst Erörterung der wesentlichsten Todesursachen. Beiträge zur Förderung der öffentlichen Gesundheitspflege von Dr. A. Oldendorff*, etc. (The Influence of Occupation on the Duration of Human Life, with a Description of the most Important Causes of Death, being Contributions towards the Promotion of Public Health, etc.) In this work the author proceeds to make use of the mort. returns he had obtained from the Life Offices [see *Mort. Statistics*]. The first section deals with the general question of the influence of occupations or employments upon the duration of life ; while in the second part he directs his inquiry to the average age at death of persons engaged in the various branches of the iron manufacture. The case of the metal grinders receives especial consideration, as indeed it has done by many previous writers. The work deals with many points of high interest to Life Offices ; and in subsequent parts the influence of other occupations in Germany will be investigated.

Pauperism.—A correspondent to the *Times*, 7 Sept. 1878, gave the following account of the mode of dealing, in North Germany, with those who constitute the great bulk of our pauper classes in the U.K. :

... They have very little, and in many places nothing, of what we term the "Union or indoor test," but they have, at least for beggars, vagrants, the incorrigibly lazy, *et hoc genus omne*, a still more effectual test and preventive—the gaol. For example, I yesterday landed at Lubeck, and took the opportunity of visiting the Prison and also the Hospital for the Aged Poor. In the former institution I found 150 prisoners, of whom nearly 100 are beggars and vagrants. They were all diligently at work at various industries. On inquiring as to their sentences, I was told that, for mendicancy alone, many of them were in for long periods, up to two years, and that even the average detention amounts to as much as six months. This is a time sufficient to form real habits of work (unlike our inadequate English sentences in similar cases of merely week upon week, or fortnight upon fortnight). They can earn, as their own share of profit on gaol labour, about 1s. per week. Consequently, at the end of six months they have about 25s. in hand to start with, and they usually start off to a considerable distance ; for, as the governor informed me, the Lubeck beggars are nearly all strangers and foreigners. They find that although Lubeck (like Hamburg) is a "free city," it is by no means "free" to their confraternity ; and very, very few of them ever return to Lubeck Gaol. The "indoor test" is effectual.

But, collaterally, Lubeck and Hamburg also abound in a generous, gentle, kindly, charitable care for the really deserving poor, the aged, the hardworking in former years, the meritorious, the sick, the pitiable, the young. For these there are munificent endowments and benevolent caretakers. For instance, in Lubeck there is the "Holy Ghost Hospital" (not altogether unworthy of its sacred name), under the mediæval arches and Gothic windows of which quaint and large old building are contained a series of groups of little homes (each a small household, separate and complete in itself) for about 140 poor old men and women. They are not admitted until they are old, but the place suits them well, for I observed that some of them had been there for more than 20 years. They have freedom to go in and out and to receive visits, or be in quiet, just as they please ; while religion and art and flowers and sympathy cheer their declining years. And this noble hospital, with the sacred name, is but one out of many similar ones which exist in these lands.

He truly adds : "Both Englishmen and foreigners may, with mutual advantage, study more of each other's modes of pauper treatment, and thereby supplement with what may be needful on either side their respective systems." [POOR.]

Population.—At various periods, more particularly in recent years, a number of learned men in Germany have given the subject of Pop.—and of Mort., as arising thereout—their attention. Among these may be especially enumerated, Dietrich, Wappaeus, Meyer, Engel, and others. Of the works of at least some of these more direct mention will be made as we proceed.

It is not easy to trace the growth of the pop. of Germany for any lengthy consecutive period : the continuous change in the geographical boundaries being the difficulty. In 1816, at the end of the great wars against France, the pop was returned as being 23,103,211 [? 21,740,211] ; and 21 years after, in 1837, it had risen to 30,010,711 ; while at the general census of 1858 the pop. was found to be 35,334,538. In 1867 the figures were given as 38,495,926 ; but this was including Austria, Bavaria, etc. (See 1875.)

In the preliminary portion of this art. we have given the pop. for each of the provinces of the Empire as now constituted for 1875 ; while in a table at the close of the present sub-sect. we shall give a T. of the pop. of Prussia from 1853 ; and of the German Empire as now constituted from 1872.

1525.—The Teutonic race has long been famous on the ground of its fecundity. The earliest mention of this fact which we meet with occurs in Machiavelli's *Hist. of Florence*, written at this date, wherein he says :

The people who inhabit the northern parts that lie between the Rhine and the Danube, living in a healthful and prolific climate, often increase to such a degree that vast numbers of them are forced to leave their native country, and go in search of new habitations. When any of those provinces begins to grow too populous, and wants to disburden itself, the following method is observed : in the first place it is divided into three parts, in each of which there is an equal portion of the nobility and commonalty, the rich and the poor. After this they cast lots ; and that division on which the lot falls quits the country, and goes to seek its future, leaving the other two more room and liberty to enjoy their possessions at home. These emigrations proved the destruction of the Roman Empire.

Gibbon was of opinion that Machiavel had represented these emigrations too much as regular and concerted measures ; but Malthus thinks that he had not erred much in this respect ; and quotes Cæsar and Tacitus in support of his views. When not checked by

wars and famines, he considered that the German nations would double their numbers in 25 or 30 years; and hence migration became a necessity. On the other hand, the perpetual wars, and the rude state of agriculture, must have interfered very much with this normal state of increase.

1742.—There was pub. in Berlin by Herr J. P. Sussmilch: *Die Gottliche Ordnung*, etc.—“On the Divine Decree in the Valuations of the Human Race, with regard to Births, Deaths, etc.” This work afterwards became extensively known throughout Europe, mainly through the attention drawn to it, first by Dr. Price, and afterwards by Malthus, and others.

1758.—There was pub. in Hamburg [by M. V. Riquetti, Marquis de Mirabeau, and F. Quesnay] *L'Ami des Hommes, ou Traite de la Population*, 4th ed. 2 vols.; wherein the progress of the pop. of Germany was critically examined.

1807.—There was pub. in Altona: *Versuch über die Bedingung, und die Folgen der Volksvermehrung*. This being a trans. of Malthus's famous work on Pop. by F. H. Hegewisch.

1828.—There was pub. in Leipzig by Herr C. A. Weinbold: *Ueber das menschliche Elend, welches durch den Missbrauch der Zeugung herbeigeführt wird*.

1835.—There was pub. in Berlin by Herr J. G. Hoffmann: *Ueber die Besorgnisse, welche die Zunahme der Bevölkerung erregt. Der königl. Academie der Wissenschaften Vorgelegt am 22 Oct. 1835.* (See 1845.)

1841.—There was pub. in Berlin by C. G. Zumpt: *Ueber den Stand der Bevölkerung und die Volksvermehrung im Alterthum Eine in der königl. Preussischen Akademie der Wissenschaften gelesene Abhandlung*.

There was pub. in Ulm by Herr C. Bernouilli: *Handbuch der Populationistik oder der Völker- und Menschenkunde nach Statistischen Ergebnissen.* (See 1843.)

1843.—Herr C. Bernouilli pub. in Ulm: *Neuere Ergebnisse der Bevölkerungsstatistik Zuleich als Nachtrag zum Handbuch der Populationistik*.

1845.—There was pub. in Berlin by Herr J. G. Hopfmann: *Uebersicht der Allgemeinen Staatswirthschaftlichen Verhältnisse, welche die Verschiedenheit der Bildung und des Besitzstandes unter den Staatsangehörigen erzeugt*.

1859.—Herr J. E. Wappäus pub. in Leipzig: *Allgemeine Bevölkerungsstatistik Vorlesungen*.

1861.—The increase in the pop. of the Duchy of Brunswick during the decennium ending with this year had been at the rate of '83 p.c.

1866.—The density of the pop. in Northern Germany was stated to be 166 p. sq. mile; while that of Austria was but 152.

1867.—The pop. of Prussia in 1853 was 17,065,143; and by 1866 it had increased to 19,543,540. The add. of Schleswig-Holstein, Hanover, Hesse, and Nassau in 1867, raised it to 23,971,337. Prior to 1866 the increase was at the rate of 1'1 p.c. annually; since 1867 the ann. rate of growth has been but 0'2 p.c.

The marriage-rate ranged from 15 to 18 p. 1000 between 1853 and 1865; the birth-rate from 36 to 42; and the death-rate from 26 to 32 p. 1000. In 1866 there were cholera and war to contend against; and the marriage-rate fell from 17 and 18 in the three preceding years to 15'5 p. 1000. The birth-rate of that year was not affected by the combination of evils (but it fell in the following year from 39'2 to 36'9), while the death-rate was fully 7 p. 1000 in excess. Speaking generally, there is no considerable difference between the average ann. marriage-rate of Prussia and England; but the birth and death rates were at this date and earlier very much higher in Prussia than in England.

1871.—The pop. of Prussia this year became augmented to 24,643,874, by the annexation of Alsace and Lorraine. In 1870 the Franco-German war had sent the marriage-rate down to 14'5 p. 1000, the effect of which was shown in the extremely low birth-rate of this year, viz. 35 p. 1000. The death-rate in 1870 was 28'6, and this year it rose to 30 p. 1000.

1875.—The preliminary results of the census taken on the 1st of Dec. 1875, were pub. by Dr. Engel, Director of the Statistical Bureau at Berlin. The results made known were definite as regards Prussia, Saxony, Brunswick, Lippe, Saxe-Altenburg, and Saxe-Meiningen; while a final revision was going on in the case of the remaining States of the Empire; but this revision was not likely to effect more than a trifling alteration in the figures. It was found that the total pop. of the German Empire numbered 42,726,844, while at the preceding census of December 1, 1871, the number was 41,023,095. Thus the increase of pop. amounted to 1,703,749 in four years, being slightly over 1 p.c. p.a. The Franco-German War, it was calculated, cost the nation not far from a quarter of a million of men, and consequently the four years from 1871 to 1875 covered the loss nearly sevenfold. So quickly does peace heal the wounds of war.

The rates of increase of pop. from 1871 to 1875 differed in a very striking manner in the various States of the Empire. The rate was largest in the two free cities of Bremen and Hamburg, amounting to over 16 p.c. in the former, and 14 p.c. in the latter; but this was, in reality, not so much a general increase of pop. as a feature of that prevailing

movement from rural into urban districts conspicuous, not only in Germany, but all over Europe. As regarded the principal States of the Empire, the increase of pop. was greatest in Saxony, which had 2,556,244 inhabitants in 1871, and 2,760,342 at the census of 1875, showing a growth at the rate of close upon 8 p.c. in the four years. Next to Saxony stood Prussia, the pop. of which had increased from 24,605,842 in 1871 to 25,693,688 in 1875, or at the rate of 4.40 p.c. during the period. The three southern States exhibit a very inferior growth of pop. In Bavaria the number of inhabitants was 4,863,450 in 1871, and 5,024,832 at the census of 1875, showing an increase of but 3.10 p.c. The growth was slightly larger in Württemberg, which had 1,818,505 inhabitants in 1871, and 1,881,505 in 1875, the rate of increase being 3.42 p.c. In the adjoining State, Baden, the pop. was 1,461,562 in 1871, and 1,506,531 in 1875, the increase being at the rate of 3.08 p.c. in the four years. There was, as already mentioned, an abnormal increase of pop. in the two free towns of Hamburg and Bremen, as also in the neighbouring Duchy of Brunswick; but it was more or less slight in nearly all the minor States of the Empire, some of them showing an absolute decrease of inhabitants. Alsace-Lorraine lost—not by decrease of births, it would appear, but by emigration—20,330 souls in the four years; the pop. of the Reichsland falling from 1,549,738 in 1871 to 1,529,408 in 1875, or at the rate of 3.3 p.c. in four years. Three other States showed a decrease of pop. in the census returns of 1875. The little Principality of Waldeck decreased from 56,224 to 54,673; and the two Grand-Duchies of Mecklenburg-Schwerin and Strelitz, the administration of which remains semi-feudal, lost, the first 3973, and the second 1334 souls in the four years. To summarize the returns of the census of 1875, it may be said that the increase of pop. was mainly in the Northern States of Germany, more particularly in Prussia, the Eastern Provinces of which stand prominent in this respect, and in Saxony. In other words, the boundary-lines of large increase fall in, to a marked degree, with those divisions of the Empire inhabited by Protestants. Germany here is typical of the whole of Europe. See sub-heading *Religion, Statistics of*.

The numerical proportion of the sexes had not yet been definitely estab. in all the States, but the returns, as far as pub., yielded some interesting facts. Foremost among them was that while the surplus of females over males in E. and W., with their 22,712,266 inhabitants, was found at the census of 1871 to amount to no less than 594,398, Prussia, possessed of a population of 25,693,688, by the returns of 1875 had an excess of but 362,730 females over males: being proportionately about one-half of the numerical surplus of England. In many of the northern divisions of Prussia, the census returns of 1875 show a nearly equal division of the sexes, and in a few even an excess of males over females. Thus the district of Hanover, in the Province of the same name, formed of the kingdom of Hanover, had a pop. of 215,364 males, and 214,695 females; while the district of Lüneburg, in the same province, had as many as 195,586 males, with 192,128 females, and the adjoining district of Osnabrück 139,761 males, with but 138,001 females. From a cursory examination of the census returns, as far as they were complete, it appeared as if the sexes were most nearly alike in numbers in those districts which showed the largest increase of pop., and that the excess of females over males was greatest, on the other hand, in those which show the least increase. This, indeed, seemed to be the case not only in Prussia, but throughout the whole of Germany. It was a notable fact that at the census of the 1st December, 1871, when the pop. of Prussia was over a million less than at the last enumeration, the surplus of females over males was 390,845, being 28,115 more than in 1875.

An examination of the preceding figures has given rise to a belief that the male pop. of the country is steadily declining, whether in view of escaping from forced military service, or whether mainly in consequence of the undue extension of that service, has not yet been made apparent. The problem is engaging the attention of thoughtful observers in Germany.

Comparing the last census with the earliest enumerations, the fact established itself that Germany, within the same limits, not far from doubled its pop. in the course of 60 years, while that of Prussia increased nearly 150 p.c. during the same period. In 1816 the pop. of Germany was 23,103,211; in 1837 it had risen to 30,010,711; in 1858, to 35,334,538; and at the census of 1875 it was 42,726,844, or 41,197,436, excluding the annexed territory of Alsace-Lorraine. Prussia, at the same time, increased from 10,425,091 souls in 1816 to 14,160,063 in 1837; to 17,739,913 in 1858; and to 25,693,688 souls in 1875. Thus Prussia expanded in pop.—partly by annexation, yet still to a high degree also by innate vitality—much faster than Germany; but the latter proved not the less the second fastest growing country in Europe, only surpassed in this respect by one other State—Great Britain.

1876.—The pop. of the German Empire was estimated at 43,072,342. The marriage-rate of the Empire (persons married to 1000 of the pop.) was 17.0, or 2 p. 1000 less than the average ann. rate in the 5 years 1872-6. The birth-rate in 1876 was 40.8 p. 1000, which was slightly in excess of the average, 40.1; the death-rate was 26.3; the average rate in the 5 years 1872-6 being 27.6. The rapid decrease in the marriage-rate of the German Empire may be taken as an indication of the severe commercial

distress that prevailed after the war, and in spite of the war indemnity of £220,000,000 stg. that had been paid by France; but it is remarkable that while the marriage-rate of the German Empire rapidly decreased during the 5 years under notice, the birth-rate slightly increased. "The decline of the death-rate is encouraging, and leads us to hope that the skill and energy which have achieved the unity, will secure the health, of the nation. There is no reason why the Germans should die at a faster rate than the Swedes, Danes, English, and French. The statistics will show where the evils lie."—English Reg.-Gen. 39 Rep. p. xli.

T. Showing the Pop., Number and Proportion p. 1000 of Persons Married, Births, and Deaths in Prussia in Each of the Years 1853 to 1876.

Years.	Numbers.					Proportions per 1000 of the Pop.		
	Estimated Pop. in the Middle of each Year.	Marriages.	Persons Married.	Births.	Deaths.	Persons. Married.	Births.	Deaths.
				Exclusive of Still-born.				
1853	17,065,143	145,345	290,690	633,018	495,092	17.0	37.1	29.0
1854	17,183,544	134,261	268,522	622,917	475,005	15.6	36.3	27.6
1855*	17,202,831	131,911	263,822	593,511	526,154	15.2	34.5	30.6
1856	17,328,539	141,267	282,534	601,005	453,298	16.3	34.7	26.2
1857	17,479,512	162,475	324,950	674,784	493,173	18.6	38.6	28.2
1858*	17,739,913	167,387	334,774	699,354	488,912	18.9	39.4	27.6
1859	17,983,484	150,569	301,138	715,635	462,360	16.7	39.8	25.7
1860	18,105,757	151,847	303,694	699,403	429,968	16.8	38.6	23.7
1861*	18,491,220	146,992	293,984	692,989	467,612	15.9	37.5	25.3
1862	18,711,806	157,118	314,236	692,395	457,736	16.8	37.0	24.5
1863	18,950,278	163,704	327,408	745,226	492,068	17.3	39.3	26.0
1864*	19,255,139	165,590	331,180	758,983	503,279	17.2	39.4	26.0
1865	19,465,636	176,236	352,472	761,298	530,157	18.1	39.1	27.2
1866	19,544,030	151,759	303,518	765,342	664,903†	15.5	39.2	34.0†
1867*	23,971,337	222,466	444,932	884,471	614,852	18.6	36.9	25.6
1868	24,148,516	212,958	425,916	887,810	658,728	17.6	36.8	27.3
1869	24,380,505	216,914	433,828	919,075	632,042	17.8	37.7	25.9
1870	24,635,893	181,539	363,078	938,489	665,942	14.7	38.1	25.9
1871*	24,643,623	195,974	391,948	932,130	708,469	15.9	33.8	28.4
1872	24,727,067	255,421	510,842	982,525	724,780	20.6	39.7	29.3
1873	24,901,789	252,872	505,744	987,392	698,366	20.3	39.7	28.0
1874	25,185,522	244,773	489,546	1,011,137	651,094	19.4	40.1	25.9
1875*	25,693,634	230,860	461,720	1,039,753	678,657	18.0	40.5	26.4
1876	25,971,962	221,712	443,424	1,053,070	659,537	17.1	40.5	25.4

Note.—The returns for Prussia include Schleswig-Holstein, Hanover, Hesse, and Nassau in and after the year 1867. The deaths for 1866, 1870, and 1871 include the military that fell in the wars.

* Census years.

† Cholera prevailed in the year 1866.

GERMAN EMPIRE.—Table showing the Pop., Number and Proportion per 1000 of Persons Married, Births, and Deaths, in each of the Years 1872 to 1876, as furnished by the Statistical Department of the German Empire.

Years.	Numbers.					Proportion p. 1000 of the Pop.		
	Estimated Pop. in the Middle of each Year.	Marriages.	Persons Married.	Births.	Deaths.	Persons Married.	Births.	Deaths.
				Exclusive of Still-born.				
1872	41,228,207	423,900	847,800	1,626,037	1,194,732	20.6	39.4	29.0
1873	41,561,304	416,049	832,098	1,647,967	1,173,955	20.0	39.7	28.2
1874	41,999,349	400,282	800,564	1,682,737	1,122,158	19.1	40.1	26.7
1875*	42,515,472	386,746	773,492	1,724,412	1,172,393	18.2	40.6	27.6
1876	43,072,342	366,912	733,824	1,757,701	1,133,627	17.0	40.8	26.3

* Census year.

Provident Associations.—The Provident Asso. of Germany are numerous, and mostly of a practical character. Commencing with Gilds, industrial and social, they have spread into various ramifications, of which Friendly Sos. are the chief; while Widows Funds and Annu. Asso. are also very prevalent. Among the later phases is that of Trades Unions.

1874.—"From the discussions of the Social Science Convention, held at Crefeld, it

clearly resulted that the projects of the trades unions for the estab. of Benefit Funds, which have attracted so much attention of late throughout Germany, can only be successfully carried out upon the principles of Life Ins."—*Versicherungs Zeitung*.

Public Health.—It is only within a comparatively recent period that questions of Public Health have received scientific consideration in the German cities; but, as if to make up for lost time, considerable energy has been displayed since the public mind was fairly aroused to its importance.

1873.—The German Public Health Asso. was estab. this year, and has proclaimed itself as a living and moving organization in many ways: and it cannot be denied that there was most abundant scope for its operations.

1874.—The 2nd meeting of the German Public Health Asso. was held this year in Dantzic, under the presidency of Dr. Ehrhardt, of Munich. The first subject on the programme was "the demands of Public Hygiene on the regulations of the buildings of new parts of towns, streets, and houses." The subject was ably treated of by Dr. Strassmann, of Berlin, and Herr von Haselberg, architect, of Stralsund; and was discussed with animation by the meeting. The questions of the value or worthlessness of a detached plan of building, and of the evils of cellar dwellings, were especially considered; and the further consideration of the subject was deferred to the next meeting of the So. The second question was "the influence of different dwellings on the health of the inmates so far as could be ascertained from statistics." The information derived from observations made in Berlin supported the opinion already held as to the unhealthiness both of cellars and attics, and their liability to become seats of diarrhoeal disease. The second day was devoted to a consideration of the drainage and sewerage of Berlin, under the guidance of Herr von Winter. On the 3rd day, the subject discussed was "the reasons for and against the congregation of different kinds of disease in a hospital." The reporter, Herr Sander, of Barmen, expressed himself as opposed to many special hospitals, which he held to be necessary only for smallpox, petechial typhus, and cholera. He also combated the opinion that large institutions compared unfavourably with small ones as regarded their sanitary condition. Dr. Hirt, of Berlin, brought forward some very instructive facts in reporting on "the employment of women in factories," referring especially to the injurious influence of certain branches of industry, especially those in which mercury, lead, arsenic, and phosphorus were used, on pregnant women. In these they were liable to produce abortion, and he held that women ought to be excluded from such labour during gestation. At the next sitting Prof. Reichardt, of Jena, and Engineer Schmick, of Dresden, urged the necessity of a supply of spring water to towns, even though great difficulties had to be overcome. Their report was approved by the assembly. A discussion also took place with reference to the effect of the law of 1868 on the erection of public slaughter-houses. Herr Jäger, of Ebersfeld, expressed his opinion that the estab. of such inst. was a measure productive of good, not of ill. The general opinion of the meeting was that their erection ought to be made compulsory on the local authorities, instead of being voluntary. It was decided to hold the next meeting in Munich. The Asso. consisted of 552 members.—*British Medical Journal*.

The *Versicherungs Zeitung*, while urging the claims of Life Offices upon the State for the maintenance of proper sanitary regulations, said: "Important sanitary measures have been discussed at various meetings of physicians and of scientific bodies during the year. New light has been thrown upon the best methods of combating epidemics, and in regard to the application of quarantine regulations. Much has been done to promote a recognition of the importance of hygiene to the general good of the whole State. Some of the suggestions made in these discussions have already been adopted by government authority, and are being tested in actual practice. The serious losses sustained by so many of the [Life] Cos. from the last cholera, were sufficient to show the great value of such deliberations to the interests of insurance."

1875.—The 3rd Session of the German Public Health Asso. was held in Munich; and the German Physiological Asso. held its Ann. Convention in Graz, upon the opposite bank of the Danube; so that there might be an interchange of communication between the two learned bodies. The proceedings of the section of the physiological convention on hygiene, it was considered, would be of especial interest to the members of the sanitary asso. The proceedings of the Public Health Asso. were opened by a report of Dr. Varentrapp, of Frankfurt, upon the best methods of construction with reference to the preservation of health. The subject was brought up at the session held in Dantzic, but was not finally disposed of. Another subject was discussed which had already been under consideration, namely, the compulsory inspection of meats and the regulation of slaughter-houses. Among the other topics selected for discussion were the proper kinds of food for public inst., such as boarding schools, orphan asylums, etc.; and the great question in regard to the causes of typhus.

1876.—Of the 136 towns of Germany, with more than 10,000 inhabitants and an entire pop. of 7,594,000 persons (or 56,000 p. town), 73 were furnished with water-works representing a pop. of 4,773,000, or, on an average, 66,000 persons p. town. The remaining 64 towns, or 48 p. c. of the entire number of towns, were at this date

still without water supply. These had 2,821,000 inhabitants, or, on an average, 44,000 inhabitants p. town. Thus, of the entire number of inhabitants of the 136 towns, there were only 37 p.c. without an efficient water supply.

These and other like important questions are still engaging the active attention of the various learned bodies of Germany associated with the consideration of Public Health.

Registration of Deaths.—In the German Empire every death must be reported to the minister of the parish, with the exception that Jews and Dissenters deliver their notices to the magistrate. The *Todtenbeschauer* [visiting surgeon] of Austria does not prevail here: there is no national law requiring inspection of the dead by scientific officers, except in cases which are suspected of foul play, and thus demand legal investigation. In a few of the principal towns the local magistracy appoint medical officers for the purpose of preventing either undue detention or premature interment of the dead; and to direct sanitary precautions during epidemics. These are in fact Health Officers.

The cause of death is always registered, but not necessarily on medical authority: a report from the relatives being deemed sufficient. The causes were formerly roughly distributed into 12 classes: (1) stillborn; (2) debility or old age; (3) suicide; (4) sudden accidents; (5) child-bed; (6) smallpox; (7) hydrophobia; (8) *acute* internal diseases; (9) *chronic* internal diseases; (10) apoplexy; (11) external injuries; (12) unspecified. We have already seen that an improved system of ascertaining the causes of death is in progress.

Copies of parochial regis. are forwarded to the local civil authorities, police boards, town magistrates, or Crown officers, as the case may be. These again transmit them to the provincial boards, or to the *Landrath*, from which they are forwarded to the Statistical Bureau of the metropolis, where they are compiled, printed, and pub.

In *Baden* (South Germany) the regulations are much more precise and methodical, and such as we hope to see them in the U.K. when the real value of human life comes to be properly estimated. Medical inspection and report are enjoined in every case: an officer being appointed for the purpose in every town and parish. Towns containing more than 6000 inhabitants to be divided between two or more medical inspectors, who also keep the registers. A copy of each register is forwarded to the *Bezirksstaats-arzt* (district physician) at the close of each year; and an abstract of the register to the Sanitary Commission, which, after revising and verifying it, is to forward it to the Gov. with other reports affecting the health of the district.

Each entry of death in the regis. has to include, among other particulars, the cause, the duration, of the fatal illness, and whether or not attended by a medical practitioner; and in the ann. summary returned by each town or district, the deaths, male and female, are classed under 5 heads: (1) acute diseases; (2) chronic diseases; (3) external diseases; (4) accidents; (5) suicides. There is a col. for the number dying without medical attendance; and one for the deaths in each of 6 periods of life.

This resembles the *Austrian* system, which latter, however, is regarded as still more perfect; as the deaths are first reported to the civil magistrate, who sends the inspecting surgeon to see and report upon the corpse; and no clergyman is permitted to bury a corpse without a certificate from this officer.

Religious Census.—At the German Census of 1871 there were found to be 25,579,709 Protestants, and 14,867,463 Roman Catholics, together with 594,313 followers of other creeds, including Jews.

1875.—At the Census this year, the religious beliefs of the inhabitants of Prussia were inquired into, with the following results: Of the 25,742,404 inhabitants of the kingdom, 16,636,990 returned themselves as belonging to the Evangelical National Church; of these 13,266,620 were of the United Church, 2,905,250 Lutherans, and 465,120 of the Reformed Church. Of those who were not of the National Church, there were 40,630 Lutherans, 35,080 Reformed, 3710 Moravians, 2620 Irvingites, 12,210 Baptists, 14,650 Mennonites, 2080 Anglican Methodists, etc., 8,625,840 Roman and Old Catholics, 1450 Greek Church, 4800 German Catholics, 17,880 Freethinkers, etc., 339,790 Jews, and 4674 of various other beliefs. [RELIGION, STATISTICS OF.]

Suicide.—Suicides are reported to be very much on the increase in Germany; but in all such cases allowance has to be made for greater facilities of observation which now obtain.

According to Oesterlen's *Medical Statistics*, it appeared that out of every 100,000 of the pop. of Prussia, there were, from 1835 to 1841, suicides to the number of 10·3; from 1849 to 1852 the number was 10·8; while according to later figures the number in 1875 was 11·70 in every 100,000 inhabitants.

From recent statistics the following details are obtained. The number of suicides in Prussia during the year 1874 was 2851; in 1875 it was 3023; in 1876 it was 3643. Here is an increase, in 1875, of 6 p.c. over the preceding year; in 1876, of more than 20 p.c. over 1875, and nearly 28 p.c. over 1874. If we set aside the suicides occasioned by insanity or other diseased conditions, and consider only those which resulted from vice, shame, grief, or disheartenment, the relative increase is still more noticeable. In 1875 it was 9½ p.c. over 1874; in 1876, 18½ p.c. over 1875, and nearly 30 p.c. over

1874. These figures are all the more striking when it is remembered that the average ann. increase of the pop. of Prussia from 1871 to 1875 was not more than 10·42 p.c.

Referring to the causes of suicide, the figures approximate very closely from year to year. Out of every 100 cases of self-destruction the proportions were as follows :

	1874.	1875.	1876.
Insanity	28·90	28·11	28·52
Disease	7·40	6·02	6·69
Vice	11·61	11·74	11·88
Other known causes	33·36	34·92	32·90
Unknown causes	18·73	19·21	20·01

The parallelism with which these figures run is remarkable. If it should be strengthened by corresponding similarity in the experience of other countries, it will be all the more remarkable. See *Army*. [SUICIDE.]

Vaccination.—A law rendering vaccination, and in certain cases re-vaccination, compulsory, was passed as recently as 1873. This law owes its origin to the attention which the Union of German Ins. Cos. attracted to the question by its petition to the Reichstag, and to the other means employed to draw the attention of prominent members of the legislature to the importance of the question. The far-seeing wisdom of this step on the part of the Ins. Managers is apparent to all.

Vision, Defective.—The alarming rapidity with which shortsightedness is increasing among German students formed the subject of a recent debate in the Prussian Parliament. From extended observations made in the gymnasia, it appears that the number of the shortsighted increases from 23 p.c. in the first year to 75 p.c. in the ninth or last year. The too-frequent custom in Germany of forcing lads to study during the evenings with insufficient light, in ill-ventilated rooms, is undoubtedly a main cause of this widespread evil.—*Nature*, February, 1878.

War Risks (Life).—Under sub-heading *Life Ins., Practice of* (sub-section *Military and Naval Services*), we have given a brief account of a combination of the Life Offices made in 1874 for the purpose of granting pol. covering the risk of actual service in war.

In 1877 it was reported from Berlin that a rival scheme had been set on foot, under which the insured was to take out his pol. in time of peace, during which time he was to pay one quarter p.c. on the sum insured ; and on the commencement of hostilities his prem. was to be increased to 10 p.c. Privates might be insured at a slightly lower rate than officers. Red-Cross Knights on more favourable terms than the army. We have seen no confirmation of the progress of this organization, which was announced while an European war, arising out of the Eastern difficulty, seemed probable.

Widows Funds.—There is direct evidence that asso. of this class have existed in Germany for something like two centuries and a half ; there were prob. some yet earlier. The early inst. of this class were mostly founded by Governments and Princes for their public functionaries and officers. It is indeed said that there is hardly one State in the German Confederation which has not one or several Widows Funds for the Officers of State, and all the persons in the service of the Sovereign ; also for the clergy, schoolmasters, and military officers. As, however, the returns of these Asso. are not made public—for they do not appeal to the public for support—it is very difficult to obtain detailed accounts of their estab. and operations. We shall proceed to notice such as we have met with in a somewhat extended investigation.

1645.—Duke Ernest the Pious of Gotha—the ancestor of all the Ducal Saxon Houses—laid the foundation of a Widows Fund for the *clergy* of the churches of his country as far back as this date.

1662.—The same Duke Ernest of Gotha this year estab. a Widows Fund for the *schoolmasters* of his Dukedom.

These two Asso. remained in force, but with many changes in their regulations as orig. framed, until about the year 1820 ; when they were united with the Widows Fund founded in the Duchy in 1775, of which we speak under its chronological date.

Herr Hopf, speaking of these earlier Widows Funds, says :

All those estab. which had their origin in ancient times were very imperfectly regulated ; and many of them which did not require the forced accession of members of certain corporations, have been ruined for this reason. *The scientific elements were totally wanting at the time of their foundation.* Partly the laws of mort. were not yet sufficiently investigated, partly the mathematicians had not yet paid the necessary attention to the parts of their science relating to life contin. In both respects little was done till the 18th century. There were, indeed, facts already collected relating to mort. in Germany ; and it is known that Halley calculated his T. of Mort. from obs. collected in the town of Breslau during the years 1687-91. But even though the defective method followed by him in this calculation had not then been perceived, yet it was evident that the law of mort. could not be found out from such a limited experience as could be gathered in one town only, during the above-named short period, and that therefore no confidence was to be bestowed upon the T. of Halley. It has therefore never been made use of in Germany for calculations relating to Burial or Widows Funds, or similar estab.—*Assu. Mag.* vol. ix. p. 42 (1860).

18th century.—Germany passed through much such a phase in regard to Asso. of this class as prevailed in England at about the same date. We have the means of referring to but a few of these.

1760.—At *Bremen* an Inst. was estab. at this date which promised annuities to widows for a payment on admission of a sum equal to one yearly payment of the annu. purchased, and an ann. contribution during marriage of 15 p.c. (or a little more than a seventh of the annu.). These payments (Dr. Price considered) were not more than half the proper sum which should have been charged for them. The annu. were therefore soon reduced 10 p.c.; and it was expected they would have to be further reduced.

1767.—The States of the Duchy of *Calenberg*, of which Hanover was the capital, estab. an annuity scheme very much like the preceding, except that the terms were "still more deficient": for although it differed from the former scheme in paying some regard to the ages of the persons married, "yet notwithstanding several augmentations, the contributions required by it did not two years ago come up to half the value of the annu." Great numbers, influenced prob. by the lowness of the terms and the authority of the States, had been induced to encourage this Inst. In 1779 it had annu. to pay to 600 widows; and it then consisted of 3800 members or subscribers, whose widows would be entitled to annuities. In consequence of a rapid increase of membership, for a time the insufficiency of the subs. was less observable, in the absence of proper modes of scientific test.

The information here given was furnished to Dr. Price by Herr Oeder, of Oldenburg, and was included in the later ed. of *Reversionary Payments*. It is from Dr. Price that we quote in the preceding.

But there is another incident of much interest connected with this last-named So. It was in view of making a scientific investigation into its affairs that Herr Tetens, of Kiel, found it necessary to make himself familiar with what was then known on the science of Life Contingencies; and to this circumstance we owe the publication of his work in 1785, which embodied the "columnar method" practically applied. [COLUMNAR METHOD.] See also sub-sect. *Life Contingencies*, in the present art.

1767-8.—Herr Kritter pub. during these years three tracts upon Widows Funds. They were printed in Gottingen and Hamburg.

Various other works upon Widows Funds were pub. soon after this date. See sub-heading *Ins. Literature*.

1775.—There was a Widows Fund founded this year for all the public functionaries and officers of the Duchy of Gotha. We have very few details concerning it. We know that it was carried on with moderate success down to 1820, when it was strengthened by the accession of the members of the Clergy Widows Fund, founded 1645; and of the Schoolmasters Fund, founded 1662.

1776.—There was founded the *Widows Provident So.*—a fund "for the benefit of the inhabitants of the Diocese of *Lubeck*, and the Duchy of *Oldenburg*"—prob. located at Lubeck, of which the principal founder was Herr Oeder (of whose mathematical qualifications for such a task Dr. Price speaks very favourably). The rates of contribution were deduced from Herr *Sussmilch's* T. of obs. [see *Mortality Tables*], int. 4 p.c., which was in close agreement with the *Northampton* T.

The Asso. allowed a married member to subs. an annu. not exceeding 500 rixdollars (about £88) for his widow, payable for her life; but with a power reserved to the husband of directing that it should be applied to the support of his children in case the widow should marry. Further, children's annu. were granted to a like amount payable to them in the event of their surviving their father, up to the age of 25. Dr. Price (4th ed. p. 126) says:

The sufficiency of the receipts to answer the expenses of this Inst., as far as it provides annu. for widows, has been proved by Mr. Oeder in the clearest manner from accounts which have been collected in the Duchy of *Oldenburg* of the duration of 1273 marriages, and compared with accounts of the duration of the widowhoods derived from these marriages. One circumstance in these accounts deserves particular notice: the ages of the men, one with another, when the marriages just mentioned commenced, was 32½ years; of the women 28 years. The men lived after marrying 27½ years; the women 31 years and nine-tenths [31'90]. The former, according to Mr. *Sussmilch's* T. (and also nearly according to the *Northampton* T. of obs.), should have lived only 27 and one-tenth years, and the latter only 29 and eight-tenths. The former have therefore exceeded the duration of life exhibited in the T. only six-tenths of a year; but the latter having exceeded it above 2 years, it follows that women, notwithstanding the hazards of the critical periods, and of child bearing, live longer than men. I will add, that by examining 154 of these marriages, I find their duration to have been, one with another, 24½ years, and the duration of the survivorship of the widows derived from them 19 years. Had Mr. *De Moivre's* hypothesis of an equal decrement of life been just, the latter would have been longer than the former.

In these marriages (if I may judge from examining only 140 of them) 4 widows were left to 3 widowers, which shows a chance of survivorship in favour of the wife in marriage greater than could have taken place had there been no other reason for it than inferiority of age.

In 1832 this fund became restricted to the officers in the Prussian Civil Service.

1824.—There was founded in Brunswick the *General Widows Annu. Pension So.*

In 1842 the operations of the Asso. were extended to Life Ins., and annu. operations; also to survivorship annu. for widows; but each of these branches were kept distinct.

At the end of 1850 there were in the orig. Widows Pension So. 470 members, with £4405 insured as pensions. In the new Widows Pension branch 199 members, with £1738 p.a. insured as pensions. In the Life Annu. branch 47 members, with annu. to the extent of £407. The Life branch we have already spoken of under its proper head. [AUSTRIA.] [BAVARIA.] [BERLIN.] [BRANDENBURG.] [BRESLAU.] [FIRE INS.,

POL. OF.] [FRANKFORT-ON-MAINE.] [GILDS.] [HAMBURG] [HANSEATIC LEAGUE.] [KÖNIGSBERG.] [LÜBECK.] [MARKET PRICE.] [PROFITS, INS. OF.] [PRUSSIA.] [SAXONY.] [SCHLESWIG-HOLSTEIN.] [VIENNA.] [WISBY.] [WURTEMBERG.]

[In concluding the preceding art., we have to offer our thanks especially to Herr Wilhelm Lazarus, F.I.A., of Hamburg, for detailed information respecting *Accident Ins.*, *Hail Ins.*, and *Railway Ins.*, in addition to answering numerous inquiries addressed to him upon other branches of Ins. bus. We have also to thank Herr Gustav G. Pohl of Hamburg for some details in respect of Fire Ins., of which he has so extended a knowledge; also on some other points. We fear our imperfect knowledge of the German language may have led us into some errors not yet discovered by ourselves. For all of these we apologize in advance.]

GERMANY, SOUTH.—Since the events of 1866, which led to the formation of the North German Confederation, it has become necessary to discriminate between the two portions of the Empire. This has enhanced the difficulties incident to our task. It has been impossible to arrange our facts in exact geographical and chronological accord with the political changes.

Under AUSTRIA we have already briefly reviewed some of the incidents of Ins. history there; and others of a more local character will be spoken of under VIENNA. Under BADEN (Grand Duchy of) we have given but a few Vital Statistics; and the same under BAVARIA. Under TRIESTE we shall be called upon to review the Marine Ins. Asso. of South Germany. Venice has now reverted to Italy; but its Maritime Ins. history will be fully reviewed when we write of it.

GERMINATION.—The growth of a plant from seed; the first stage of development of the embryo.

GERNIMAMENTO.—Contracts of Mut. Marine Ins. known in Italy in the Middle Ages, and so named from the circumstance of the entire vessel and cargo being considered as one whole, *unum Germen*, of which each part was liable *in solidum* for the losses which the others might experience from adverse accidents. [MARINE INS., HIST. OF.]

GERONTOXON.—The *arcus senilis*. The opaque circle, or half-circle, which occurs in the cornea of elderly persons.

GERSON, JOHN.—A most eminent and learned divine, who, as early as the 15th century, wrote and spoke upon usury with eloquence, moderation, and fairness. [USURY]

GESTATION (from *gesto*, to carry).—A technical term applied to the period during which the females of animals *carry their young*; the state of pregnancy; the carrying of the *fœtus in utero*.

GHENT.—A town in Belgium, famous in the Middle Ages for its commerce. It is now the seat of a considerable cotton manufacturing industry, giving employment to some 30,000 or 40,000 workmen. It has other industries, as machine works, roperies, tanneries, breweries, and distilleries; also an extensive hardware manufactory.

In the 14th century this was one of the largest cities of Europe. [FLANDERS.] According to Ludovico Guicciardini it contained 35,000 inhabitants in 1609, which Hallam thinks an overestimate. It was about that date a considerably larger city than Paris.

The importance of its trade at an early period will be spoken of under MARINE INS.

GHESEL, HERR J. VON.—Pub. in Leyden, 1727: *De Assesuratione*, a famous treatise, which will be spoken of under MARINE INS.

GHINN, HENRY.—Was Sec. of *Commercial Union* from its estab. down to 1867, when he resigned.

GIANTS.—The proportions of the human body have always formed an element of study in the medical examination of lives; and any serious departure from the ordinary average in height or weight must demand attention. In this view Giants fall directly under our consideration; and their longevity or otherwise becomes a matter of peculiar interest.

History, both sacred and profane, makes mention of Giants, or people of extraordinary stature; and an inherent love of the marvellous has lent a tendency to exaggeration. The Bible makes mention of several giants, as also races of giants. Thus Og, king of Bashan, was of the remnant of the Giants (B.C. 1451): his bedstead was 9 cubits long (about 16½ feet), *Deut.* iii. 11: but Goliath of Gath, whom David slew (B.C. 1063), was 6 cubits and a span, or about 11 feet. The body of Orestes, according to the Greeks, was 11½ ft.; the Giant Galbara, brought from Arabia to Rome, under Claudius Cæsar, was near 10 ft. (*Pliny*); and the bones of Secondilla and Pufio, keepers of the gardens of Sallust, were but 6 inches shorter.

A writer in *Once a Week*, a few years since, made the following summary of the Giants of history:

Funnam, a Scotsman, who lived in the time of Eugene the Second, King of Scotland, measured 11½ ft.; and Jacob le Maire, in his Voyage to the Straits of Magellan, reports that, on the 17th of December, 1615, they found at Port Desire several graves covered with stones; and having the curiosity to remove the stones, they discovered human skeletons of 10 and 11 feet long. The Chevalier Scory, in his Voyage to the Peak of Teneriffe, says that they found, in one of the sepulchral caverns of that mountain, the head of a Gaunche, which had 80 teeth, and that the body was not less than 15 ft. long. The giant Ferragus, slain by Orlando, nephew of Charlemain, was 18 ft. high. Rioland,

a celebrated anatomist, who wrote in 1614, says that, some years before, there was to be seen in the suburbs of St. Germain the tomb of the giant Isoret, who was 20 ft. high. In Rouen, in 1509, in digging in the ditches near the Dominicans, they found a stone tomb containing a skeleton, whose skull held a bushel of corn, and whose shin-bone reached up to the girdle of the tallest man there, being about 4 ft. long, and consequently the body must have been 17 or 18 ft. high. Upon the tomb was a plate of copper, whereon was engraved, "In this tomb lies the noble and puissant Lord, the Chevalier Ricon de Vallemont, and his bones." Platerus, a famous physician, declares that he saw at Lucerne the true human bones of a subject, which must have been at least 19 ft. high. Valence, in Dauphiné, boasts of possessing the bones of the giant Bucart, tyrant of the Vivarais, who was slain by an arrow by the Count de Cabillon, his vassal. The Dominicans had a part of the shin-bone, with the articulation of the knee, and his figure painted in fresco, with an inscription, showing that this giant was 22½ ft. high, and that his bones were found in 1705, near the banks of the Morderi, a little river at the foot of the mountain of Crussol, upon which, tradition says, the giant dwelt. January 11th, 1613, some masons digging near the ruins of a castle in Dauphiné, in a field which, by tradition, had long been called the Giant's Field, at the depth of 18 ft., discovered a brick tomb, 30 ft. long, 12 ft. wide, and 8 ft. high, on which was a grey stone, with the words *Theutobochus Rex* cut thereon. When the tomb was opened, they found a human skeleton entire, 25½ ft. long, 10 ft. wide across the shoulders, and 5 ft. deep from the breast-bone to the back. His teeth were about the size each of an ox's foot, and shin-bone measured 4 ft. Near Mezarino, in Sicily, in 1516, was found a giant 30 ft. high; his head was the size of a hogshead, and each of his teeth weighed 5 ounces. Near Palermo, in the valley of Mazara, in Sicily, a skeleton of a giant, 30 ft. long, was found in the year 1548; and another of 30 ft. high in 1550; and many curious persons have preserved several of these gigantic bones. The Athenians found, near their city, two famous skeletons, one of 34, and the other of 36 ft. high. At Totu, in Bohemia, in 758, was found a skeleton, the head of which could scarce be encompassed by the arms of two men together; and whose legs, which they still keep in the castle of that city, were 26 ft. long. The skull of the giant found in Macedonia, September, 1691, held 210 lb. of corn.

The celebrated Sir Hans Sloane, who treated this subject very learnedly, arrived at the conclusion that while the measurements here given might be correct, the bones were those of elephants, whales, and other enormous animals. In some instances these statements are made by connoisseurs, who should not be readily deceived.

John Middleton, of Hale (Lancashire), commonly called the Child of Hale (born 1578), was 9 ft. 3 in. high. His hand was 17 in. long, and the palm 8½ in. broad.

The giants of more modern date, and either belonging to our own country, or brought here for exhibition, are the following:

Patrick Cotter, the "Irish Giant" (born 1761), was 8 ft. 7 in. high; his hand from the commencement of the palm to the extremity of the middle finger measured 12 in., and his shoe was 17 in. long. He died in 1806, aged 45.

Charles Byrne, called O'Brien, was 8 ft. 4 in. high; he died in 1783, age not recorded. His skeleton is preserved in the Museum of the College of Surgeons, Lincoln's Inn, and is well worthy of a visit.

Big Sam, porter of the Prince of Wales (afterwards Geo. IV.) at Carlton Palace, was nearly 8 ft. high.

M. Brice, the French Giant (born in the Vosges), was 7 ft. 6 in. high. He was exhibited in London in 1862-3.

Robert Hales, the "Norfolk Giant," was 7 ft. 6 in. high, and weighed 452 lbs. He died at Yarmouth in 1863, aged 43.

Chang-Woo-Gow, the "Chinese Giant," was, when 19 years old, 7 ft. 8 in. high. He was exhibited in London in 1865.

There died at Hawick, in Scotland, in 1870, an Irishman who was 7 ft. 8 in. in height, measured 58 in. round the chest, and weighed 22 stone; age not stated.

Capt. Martin von Bruen Bates, of Kentucky, and Miss Ann Hauen Swann, of Nova Scotia, both about 7 ft. high, were exhibited in London in 1871, and were married to each other at St. Martins-in-the-Fields, 17th June, that year. We have not been able to obtain any details of their progeny.

Another Norfolk Giant.—Mr. John T. Waller, M.R.C.S., wrote from Flegly Burgh, Norwich (April, 1877), that the last of the giants of East Anglia was no more. His name was Benjamin Daniels, and he was born and lived all his life as a farmer at Scratby, on the coast, about 6 miles north of Yarmouth, and 5 miles from Somerton, the birth and resting-place of Hales, the Norfolk Giant. His age was 54, height 6 ft. 6 in., weight 24 stone, width from shoulder to shoulder across the back 20 in., symmetry grand, strength great, frequently loading his own waggon with corn by carrying four bushels of wheat under each arm at one time, and he has brought wreckage off the beach which had foiled three men. When in great haste to have his farm work done, horses being much engaged, I have seen him harnessed to one of his harrows and cultivating the land. He left a widow but no family. He was an exceedingly good-natured man.

The Scotch Giant.—William Campbell, the Scotch giant, died in Newcastle, May, 1878. The coffin was 7 ft. long, 3 ft. wide, and 2 ft. 10 in. deep. The window of the room in which deceased lay, and the brickwork down to the level of the floor, had to be taken out, and the coffin was lowered by means of block and tackle to a waggon from the third storey of the Duke of Wellington Inn, Highbridge. [HUMAN BODY, PROPORTION OF.]

GIBALLINUS, "A Jesuit of Lyons."—He pub. in 1656 and 1663, *De Universa Negotiatione*, which contains a treatise "De Usurio et Commerciis," 2 vols. fo. In this work is given much information regarding the early practice of Marine Ins. in France and elsewhere.

GIBSON, A.—Was one of the early Man. of the *Life Asso. of Scot.*

GIBSON, HUGH.—Resident Sec. in Glasgow for *Scottish Equitable*, and for *Edinburgh Fire* (since 1878). He was trained to the bus. in the *Standard*; and afterwards held a position in the *Edinburgh Life*. In 1869 he became Sec. of the Glasgow branch of the *Reliance*.

GIBSON, JOSEPH.—Sec. of *Union Marine* of Dundee since 1860.

GIBSON, R.—Sec. of *Scottish Equitable* for some years, down to 1853.

GIDDY, J. T.—Sec. of Irish Branch of *Northern* since 1876. He had previously been 12 years in the head office of the *Royal*. On his retirement from the last-named office, a handsome testimonial was presented to him by the staff. He commenced his Ins. career in the *Yorkshire* about 1855.

GIDDY, W. H.—Principal officer in the Melbourne branch of the *Royal Ins. Co.* since 1874. He had previously held an appointment in the head office of the same Co.; and on his retirement (Nov. 1873), consequent upon his present appointment, he received a testimonial, with an illuminated address containing the following record: "Presented to Mr. W. H. Giddy, together with a tea and coffee service, by the undersigned his fellow clerks, wishing to express their sincere esteem for him as a colleague; and although deeply regretting his removal from amongst them, nevertheless offer their hearty congratulations on his appointment to the Melbourne office of the *Royal Insurance Company*. They desire him to receive the gift as a token of their best wishes for his health and prosperity."

GIFT.—The old text-writers made a gift (*donatio*) a distinct species of deed, and describe it as a conveyance applicable to an estate-tail. A gift is now understood to be a voluntary conveyance, without binding consideration; and therefore void in certain cases. A gift is likewise applied to gratuitous transfers of personalty, and *donationes mortis causâ*. [DONATIO MORTIS CAUSÂ.]

GIFT OF POLICY OF INS.—The question of the gift of a pol. of ins. is surrounded with many technical difficulties: the mere possession of a pol. is by no means evidence of ownership; nor, on the other hand, is the possession of the pol. essential to the proof of interest as owner. Some of these points have been discussed under title *DONATIO MORTIS CAUSÂ*. But a pol. may be given under other circumstances than prospective death; and in this case the circumstances discussed under the last-named title will not apply.

A voluntary gift to be effective must be complete: there must be no reservation on the part of the donor. A gift to a trustee on the part of and for the benefit of the donee is sufficient; or if the donor expressly declares himself a trustee for the donee, that is also sufficient. There must in every case be something to show the intention to give in such a way as to place it beyond the power of the donor.

In *Witt v. Amis*, before the Court of Queen's Bench in 1861, certain jewelry and a pol. of ins. had been given to the deft. during her life, by a lady since deceased. It was admitted that bonds and certain other securities could be so disposed of; but it was contended that a pol. of ins., being only a *CHOSE IN ACTION*, could not. The Lord Chief Justice said, "We took time to consider whether we could distinguish a pol. of ins. from a bond or mortgage. After considering the matter, we are of opinion, on the point reserved, *that there is no distinction*." This puts the matter at rest prob.; certainly no new case has since arisen.

In the case of the gift of a pol. of ins. there are peculiar features, as distinguished from any other gift. There must be notice to the office, under the "Pol. of Assu. Act, 1867." See *ASSIGNMENT OF INS. POL.* A very strong instance of the necessity for such notice arose in the case of *Fortescue v. Barnett* (in 1835), where, after a pol. for £1000 in the *Equitable So.* had been assigned, but no notice given the office, first the bonus and then the pol. had been surrendered to the So. for a valuable consideration. In the case of an annually renewable pol., there would always be the liability of the pol. to lapse for non-payment of prem. And in the case of a fully paid-up pol. there would be the contingency of a surrender where the pol. had not been handed over to the donee, and no notice given to the office.

The preceding remarks can hardly apply to any other than a Life pol.; nor indeed do we see how the gift of any other species of pol. (save, perhaps, an Accident pol.) could be made valid.

The practice in the *United States* is less technical, and therefore more rational; we quote from Bliss (*Law of Life Ins.* 2nd ed. 1874):

In this country it is believed that nearly or quite all of these refinements [he had reviewed the

English practice], as well as those relating to notice, are of comparatively little importance. Subject to the claims of creditors to avoid a transfer made in fraud of their rights, any act which indicates an intention to transfer the interest in the pol., whether voluntary or for a consideration, will be held good; and the first assignee gets an absolute title, though he does not obtain possession of the pol. nor give notice to the Co. Where an insured assigned a pol. by a written instrument to a third person in trust for his children, and deposited it in the safe of the firm, of which the assignee was a member, with his name and residence, with the words, "Please send this to him after my death," it was held, that the assignment having been made when the assignor was solvent, there was a sufficient delivery to the trustee to make it valid as against the creditors of the assignor, who had died insolvent. But it was held that the creditors could claim from the proceeds the prems. paid after the assignor became insolvent.

This was in the case of *Estate of Trough* (8 Phil. R. 214).

GIG.—A light carriage drawn by one horse [CARRIAGE INS.]. In *Naval* language, a light boat attached to a ship. It is rowed by two, four, or six alternate oars, and is ordinarily kept for the use of officers.

GIGS OR **GIG MACHINES.**—Rotary cylinders covered with wire teeth for teasing woollen cloth.

GILBERT, F. H.—Was Sec. of *St. George* Ins. Co. from 1857 down to the date of its amalg. He was understood to be the founder of the *British, Colonial, and Foreign Property Ins. Corp.* in 1874; and of the *Licensed Victuallers Plate-Glass* in 1875.

GILBERT, CAPT. THOMAS, M.P.—Pub. in 1775 a work on *The Poor*. In 1781: *Employment of the Poor*. He introduced a Bill into Parl. regarding the Poor in 1765, which was thrown out in the Lords; in 1782 he introduced 3 Bills on the subject, 2 of which became law. In 1787 he advocated further legislation. [POOR, INS. FOR THE.] See also **FRIENDLY SOS**.

GILBERTSON, EDWARD.—Was Actuary of *Achilles* (No. 1) in 1843.

GILDA **MERCATORIA.**—A mercantile meeting or assembly.

GILDEMEISTER, DR., Jurist, Bremen. Regarded as of great authority.—Pub. in 1803: *Dissertatio Situe aliquod, Fueritve, Jus Maritimum Universale?*

GILDING ON **WALLS** AND **CEILINGS.**—Ornamentation of this character, and fresco work generally, are not covered by ordinary pol. of fire ins. The liability to injury alike from smoke and from water, apart from being reached by fire, puts all such decorative work into the category of special risks—the prem. ranging from 2 to 4 times that for ordinary fittings and decorations. The practice is the same in the U.S. See *Moore's Fires*, etc., 1877, p. 131.

GILDS.—These have played a very important part in the history of our civilization, and probably in that of the world generally. They have fostered our arts and sciences: developed and extended our commerce; and in many cases cherished and preserved our liberties. Further, they have in various respects moulded our national character and institutions. But what is still more to our present purpose—and alone demands and justifies the following detailed investigation—is that they have especially initiated and nurtured that principle of association for the common protection in wealth and in adversity, which, while it is claimed as a peculiarity of the Anglo-Saxon race, has, in truth, a far more remote antiquity. It is to be traced through the Oriental races, back to the ancient Hindoos; and in fact seems coeval with commerce and civilization. It may be that the Anglo-Saxon race has elevated this principle to a higher stand-point than any before them; its most noble outcome being that of Life Ins. The Gilds were in truth the Ins. Asso. of the Middle Ages, and prob. the only ones which were required or could have existed in that state of society.

Definition.—It may be useful at this point to speak of the definition of the term. Bishop Gillis, in his Treatise pub. in Edinburgh in 1843, says (Appendix, p. iii):

As to the word Gild, it is one of Saxon origin, and is derived from *Geldan* or *Gildan*, which means "to pay": because the members of Sos. so called, whether united together for civil or religious purposes, were "*Gildare*," that is, to pay something towards the support of the brotherhood to which they belonged. This will also account for a preference being here given to what seems to have been the more ancient way of writing the word *Gild*, over the more recent one of *Guild*, as in Guildhall, or Dean of Guild.

Dr. Lujo Brentano (*Essay on the Hist. and Development of Gilds*, 1870) says: "It is a mistake to connect the word with the German *geld*, payment. The real derivation is to be found in Welsh *gwyl*, Breton *goel*, *gouil*, a feast or holiday." He also, in support, quotes the Dutch word *gulde*, a feast; also a gild or corporation.

We are disposed to think that the word has had a more simple significance, viz. a body of men associated together, under oath, for a common purpose.

Origin.—A learned American writer [W. S. L., in the *Baltimore Underwriter*] has worked up into a pleasing chain of probability the various scattered links of history which he had discovered in the course of an extended investigation into the origin of the principles of association. He commences with the Essenians, who were only a religious sect of the Jews, but they were organized in communistic societies, the individual members of which were provided with all the necessities of life. The arrangements made in the synagogues of the Israelites in *Alexandria* (160–143 B.C.), where the Jews were distributed by trades, show that societies similar to trade-gilds were in existence at that time among the old Jewish nation. (Graetz's *Hist. of the Jews*, vol. iii. p. 34.) In

Athens the Solonic Law recommended the organization of trade-societies as promoting the benefit of the whole community; and in *Sparta* the membership in these societies seems to have been hereditary. In *Rome* such societies must have been of a very early date. It is said that Numa Pompilius, King of the Romans, from 714 to 652 B.C., united the musicians, carpenters, coppersmiths, dyers, jewellers, shoemakers, potters, and tanners into societies; and under the Cæsars the shipmasters transporting the corn from the provinces to the capital, and the bakers with whom the Government contracted for the distribution of bread among the populace, organized influential societies vested with powerful privileges. "It is true (he continues) that the information we have about these old societies of the Jews, Greeks, and Romans is very meagre, and of an inferential character, but there is no good reason to doubt that they had essentially in view the same objects which gave birth and life to the trade-gilds of the Middle Ages, the successors to the old gilds."

There are (he further says) authors of high authority who trace the origin of these old Teutonic societies to the *collegia opificum* of the Romans, which were no mere formalities, and were linked together by moral and religious bonds. They had their own *sacra* which constituted the real and deep-seated connective link which is analogous (*mutatis mutandis*) to the saints of the Christian gilds. If there is lack of documentary evidence, the presumption is sufficiently admissible that the gilds were not the first representatives of the idea of association forming a part of the principle of insurance, and that the question "how to help the few by the co-operation of the many" was a problem not unknown to the civilized nations of the classic period of history.—See our Chronological Review—*Roman Period*.

Dr. W. E. Wilda, in his *Das Gildenwesen im Mittelalter Eine gekrönte Preisschrift* (Halle, 1831, c. 1, s. 1), expresses the opinion that the origin of Gilds is to be traced in, and was in fact derived from, the sacrificial feasts of the ancient Teutonic nations. And Lappenberg (*Hist. of England under the Anglo-Saxon Kings* [Thorpe's translation], vol. ii. p. 350) and Thorpe (*Diplomatarium Anglicum*, preface, p. xvi) incline to the same view. But Mr. Toulmin Smith was emphatic "that none of our Gilds were ever founded on such a basis" (*Gilds*, preface, p. xvi, note). So, again, he contended that there was no analogy between the old Sabine curies and our English Gilds.

Dr. Lujo Brentano claims that England is the birthplace of Gilds properly so called, and proceeds to account for their origin as follows:

... The family appears as the first Gild, or at least as an archetype of the Gilds. Originally, its providing care satisfies all existing wants; and for other Sos. there is therefore no room. As soon however as wants arise which the family can no longer satisfy—whether on account of their peculiar nature, or in consequence of their increase, or because its own activity grows feeble—closer artificial alliances immediately spring forth to provide for them, in so far as the State does not do it. Infinitely varied as are the wants which call them forth, so are naturally the objects of these alliances. Yet the basis on which they all rest is the same: all are unions between man and man, not mere associations of capital like our modern Sos. and Cos. The cement which holds their members together is the feeling of solidarity, the esteem for each other as men, the honour and virtue of the associates, and the faith in them—not an arithmetical rule of probabilities, indifferent to all good and bad personal qualities. The support which the community affords a member is adjusted according to his wants—not according to his money-stake, or to a jealous debtor and creditor account; and in like manner, the contributions of the members vary according to the wants of the So., and it therefore never incurs the danger of bankruptcy, for it possesses an inexhaustible reserve fund in the infinitely elastic productive powers of its members. In short, whatever and however diverse may be their aims, the Gilds take over from the family the spirit which held it together and guided it: they are its faithful image, though only for special and definite objects.

The first Sos. formed on these principles were the *sacrificial unions*, from which, later on, the Religious Gilds were developed for association in prayer and good works. Then, as soon as the family could no longer satisfy the need for legal protection, unions of artificial-family members were formed for this purpose, as the State was not able to afford the needful help in this respect [Frith-Gilds]. These Gilds however had their origin in direct imitation of the family. Most certainly, none were developed from an earlier religious union: as little as were the Roman *collegia opificum* from the Roman sacrificial Sos., or the Craft-Gilds from the Gild-Merchants, or any Trade-Unions from a Craft-Gild.

Mr. Toulmin Smith, in his *Traditions of the Old Crown House* (Birmingham, 1863, p. 28), speaks authoritatively on the antiquity of English Gilds as follows:

English Gilds, as a system of wide-spread practical institutions, are older than any Kings of England. They are told of in the books that contain the oldest relics of English Laws. The old Laws of King Alfred, of King Ina, of King Athelstan, of King Henry I., reproduce still older laws in which the universal existence of Gilds is treated as a matter of well-known fact, and in which it is taken to be a matter of course that every one belonged to some Gild. As pop. increased, Gilds multiplied; and thus, while the beginnings of the older Gilds are lost in the far dimness of time, and remain quite unknown, the beginnings of the later ones took place in methods and with accompanying forms that have been recorded.

Objects.—Sharon Turner, in his *Hist. of the Anglo-Saxons*, says of Gilds: "They seem on the whole to have been Friendly Asso., made for mutual aid and contribution, to meet the pecuniary exigencies which were perpetually arising from burials, legal exactions, penal mulcts, and other payments and compensations."

But in the introduction to the late Mr. Toulmin Smith's *English Gilds* [Early English Text So. 1870] a wider definition is given:

"The early English Gild was an inst. of local self-help, which, before Poor-laws were invented, took the place, in old times, of the modern Friendly or Benefit So.; but with

a higher aim, while it joined all classes together in a care for the needy, and for objects of common welfare, it did not neglect the forms and the practice of Religion, Justice, and Morality."

Dr. Lingard, in his *Antiquities of the Anglo-Saxon Church*, says: "Gilds were an inst. of great antiquity among the Anglo-Saxons; and in every populous district they existed in numerous ramifications. They were of different descriptions. Some were restricted to the performance of religious duties; of others the professed object was the prosecution of thieves, and the preservation of property; but all were equally solicitous to provide for the spiritual welfare of the departed brethren."

Nearly all Gilds, for whatever purpose founded, had then certain features in common. "Though one Gild may have set itself one special object, and another a different one, yet, running throughout the whole, there are to be found the same general characteristics of brotherly aid and social charity; and the accompanying arrangements necessary to carry these out were things common to all, and therefore well understood as matters of course. If, therefore, we do not find recorded of every one that it kept a feast, or held a 'morn-speech,' or had a Gild-house, etc., it must be taken to be because each of these was so usual a part of a Gild existence that it was not necessary to mention the fact."

A general understanding of the diversified objects of Gilds may be obtained by a careful review of their recorded regulations. Care for the fitting burial of the brethren and sistren, at the cost of the Gild, was an object of the first and most general solicitude. Help to the poor, the sick, the infirm and aged, either by money, food, or clothing, was almost equally general. Assistance to those who were overtaken by misfortune, as fire, flood, robbery, was a common provision. Loans of money from the common Gild-stock were made in some Gilds under special circumstances only; in others as a part of their ordinary working. In others free loans or gifts to the young, in view of enabling them to get placed in the world. In Ludlow (Herefordshire) "any good girl of the Gild" had an unconditional dowry provided on her marriage, if her father were too poor to provide her with one. Brethren cast into prison were to be visited, and aided in getting their release. Others going pilgrimages, whether to the Holy Land, to Rome, or to "St. James of Compostella," were helped and honoured. One Gild sent a pilgrim to Canterbury every year. Sometimes the brethren were to be visited by, and other times entertained at the houses of, their richer brethren. The Gild-merchant of Coventry kept a "lodging house with 13 beds, to lodge poor folks coming through the land on pilgrimage, or any other work of charity"; with a governor of the house, and a woman to wash the pilgrims' feet.

A more detailed examination has enabled us to compile the following specific enumeration of the wide range of their provident objects:

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| 1. Relief in Poverty. | 12. Relief in case of Loss by Shipwreck. |
| 2. " Sickness. | 13. " " Imprisonment, |
| 3. " Old age. | 14. " Defending himself at Law. |
| 4. " on Loss of Sight. | 15. " being Deaf or Dumb. |
| 5. " " of Limb. | 16. " " afflicted with Leprosy. |
| 6. " " of Cattle. | 17. Dowries on Marriage of Females, or on |
| 7. " on Fall of a House. | their entering a House of Religion. |
| 8. " Making Pilgrimages. | 18. Aid in Temporary Pecuniary Difficulties. |
| 9. " in case of Loss by Fire. | 19. Aid to obtain Work. |
| 10. " " Floods. | 20. Repair of Roads and Bridges. |
| 11. " " Robbery. | |

But the good work of the Gilds was not alone confined to their members. It was not unfrequent for a number of the poor to be fed on the feast-day at the Gild-hall. Thus in two of the Lincoln Gilds it was ordered that as many poor as there were brothers and sisters (of the Gild) were to be fed on bread, ale, and fish; and in the Gild of Gerton-burdych (Norfolk) provision was made for the distribution of a certain amount of corn [wheat] and barley yearly. A Gild in York found beds and attendance for poor strangers. The Gild of the Holy Cross in Birmingham had almshouses for the poor people of the town; and help to the poor of the town was one of the "workis of charity" for which the Gild in the same place called "Lenche's Trust" was founded.

Turning next to works of public usefulness, two of the Birmingham Gilds charged themselves with the repair of certain highways. The Gild of Hatfield Brodoke (Essex) also contributed to the repair of the roads; while the Gild of St. Nicholas, Worcester, repaired the walls and bridge of that city. Many Gilds made important contributions to the repair of churches, of which that of Pampesworth (Cambridgeshire) is a curious example: some bushels of barley were given "to put out to increase for the use and repair of the church in the said town, which is in poor condition and partly decayed; and as of necessity in a short time the top of this, called the roof, must be made anew, and it cannot be done without the aid of the Gild, they pray for God that their goods be not disturbed." The Gild of Swafham Bulbek (Cambridgeshire) undertook the "repair of the church, and renovation of vestments, books, and other ornaments in the said church." The Gild of St. Andrew, Cavenham (Suffolk), would bear the charge of repair and

sustentation of the church, when necessary, "*ex consensu fratrum et sororum*." Many others might be named. And among the good works which the elastic constitution of the Gilds rendered it natural and fitting for them to take up, was the maintenance of a free school and schoolmaster, as was also done by the Gild of St. Nicholas in Worcester, the Gild of Palmers in Ludlow, and the famous Gild of Kalenders in Bristol."—Preface to *English Gilds*, pp. xxxvii-viii.

We shall now proceed to review the various classes of Gilds which have existed in the past or are now existing.

Frith-Gilds.—These were an intermediary kind of Gild, being composed first of several neighbouring families, and afterwards, probably of all the members of a given community. When the community enlarged into a town, it sometimes took the shape of a Town or Corporate Gild; or, failing this, the members merged into the larger and more general Religious or Social Gilds. The Clans of Scotland and of Ireland probably originated in the manner of Frith-Gilds, but never passed into more highly developed associations.

The same regulations as the Religious Gilds had with regard to helping Gild-brothers in every need, are to be found in the Frith-Gilds. On this point the statutes of the Gilds of all countries are almost identical. If a brother falls into poverty, if he incurs losses by fire or shipwreck, if illness or mutilation renders him unable to work, the brothers contribute to his assistance. If a brother finds another in danger of life on sea, or in captivity, he is bound to rescue him, even at the sacrifice of a part of his own goods; for which, however, he receives compensation from the brother assisted, or from the community. English Gild-statutes frequently mention loans to be given to brothers carrying on trade, often with no other condition than the repayment of it when he should no longer need it. The sick brother found in his Gild aid and attendance; the dead was buried; for his soul prayers were offered, and services performed; and not unfrequently the Gild gave a dowry to his poor orphan daughter. The numerous provisions as to the poor, as to pilgrims, and other helpless people, in the Statutes of English Gilds, prove that non-members in want found help from them as well.

The regulations as to the payment of chaplains of the Gild, as to common service and prayers, as well as to common feasting, were equally general: and everywhere fines recur equally for the infringement of the agreed-to Ordinances, for unseemly behaviour, and for offending of members.

There was an alderman at the head of the Gild, and often stewards by his side as assistants. Other officials are also now and then to be met with. The reception of a member depended upon the whole association. If any one living in the country, or a foreigner, wished to become a member of the Gild, a citizen had to pledge himself for his honour. In an Asso. so closely united, the honour of every single member was to a certain extent the honour of the whole body. Pure life and spotless reputation must therefore appear as the condition of Gild freedom. Besides this, the Gild-statutes demand no other condition for admission. Everybody entering the Gild had to bind himself by oath to keep the Gild-statutes.

Women might also become members of the Gild. They were, however, generally the wives or daughters of Gild-brothers. It is only an exception when, in several of the Gilds, women became free of the Gilds in their own right. They, however, shared only in the advantages and burdens of the Gild, and never took part in its administration or its councils.—*Brentano*, pp. ciii-iv.

It is clear that several of the conditions here stated could only arise when these Frith-Gilds had passed into a stage of higher development than we here assign to them in a general classification of Gilds; they had in fact become Town or Corporate Gilds.

The most detail-giving Stat. of the Frith-Gilds which any country can show are believed by Dr. Brentano to be the Danish. The following provisions are drawn mainly from their Ordinances:

If a Gild-brother has been slain by a stranger, the Gild appears as an ally of his relations for taking revenge, or for obtaining the *wergild* or blood-money. But if a Gild-brother has slain a stranger, the Gild assists him in the atonement he must make for the manslaughter, by means of the *wergild*; or in his escape, if he has been outlawed for the crime. Even if one Gild-brother kills another, the case is chiefly considered as a matter for the family of the slain; and, having made atonement for it, the culprit may remain a member of the fraternity. Only in the case of malicious and wilful murder was he expelled as a worthless man (*niding*), and left to the mercy (that is, vengeance) of his victim's family. The Gild-brothers also rendered each other such assistance as was sanctioned by the laws and customs of the time, in prosecuting and supporting their rights in Courts of Law. But it was everywhere the first principle of the Gild to assist him only who had justice on his side. How strictly this principle was observed may be inferred from the universal esteem enjoyed by the Gild-brothers: so that their evidence was considered specially credible; and whenever 12 persons were required as jurors or compurgators, half the number of Gild-brothers, or even less, were deemed sufficient.

The final stage of the *Frith-Gilds* will be traced under *Town* and *Corporation Gilds*; while some general remarks upon them will be found in our chronological summary under date 1272–1307.

Religious Gilds.—This was one of the earliest of the great order of Gilds. Quite apart from their existence in other countries, they are known to have a very remote antiquity in our island. Throughout the Middle Ages they existed in great numbers in every country in Europe where the Roman Catholic religion held sway. They monopolized an important place in those works of religion and charity so intimately associated with the Romish Church. Gallienus counted about 80 in *Cologne*, Melle about 70 in *Lübeck*, and Staphorst more than 100 in Hamburg. In our own country there was a large number in York and in London; in Norwich there were 12, in Lynn as many, and probably as many or more in every Cathedral City in the land.

The especial object of these Gilds was to unite in every exercise of religion: but before all things the association for the veneration of certain religious mysteries, and in honour of saints. Accordingly these Gilds were everywhere placed under the patronage of the Holy Trinity, or of certain Saints, or of the Holy Cross, or of the Holy Sacrament, or some other religious mystery. "Their objects and organizations were so identical everywhere, and remained so essentially unchanged during successive centuries, that a comparison of them in various countries and at various times could only lead to repetitions."—*Brentano*, p. lxxxiii.

In honour of the patron saints and others, altars were illuminated, and prayers were said; and minor Gilds were founded with the sole object of securing the performance of these rites in perpetuity.

The Festivals of the Gilds of this class were usually held on the day of the patron saint of the Gild. A chief feature of it—beyond the procession and the attendance at church, and perhaps a feast at some period of the day—was the performance of a Scriptural Piece, or a Miracle Play. This was especially so with the Gild of the Lord's Prayer at York (spoken of under *York*, 1388); also with the Gilds of St. Elene, of St. Mary, and of Corpus Christi, at Beverley. The Passion Play of Ober-Ammergau (Southern Bavaria) played now every tenth year only, and another in Spain (played with "painful realism" in 1873), are Continental manifestations of the same. Some of the Gilds were devoted to the performance of secular plays: for instance, the Gild at Stamford, and of the *Confrérie des Conards* at Rouen. Probably, however, this latter really belonged to Social Gilds.

People of all ranks took part in these Religious Gilds. In some of them indeed certain classes were excluded. On the other hand, the same person might take part in several Religious Gilds. The members often had a special livery, as is still the case with certain Fraternities at Rome. These liveries were worn on their ecclesiastical festivals, and probably also at the great feasting and drinking-bouts which were often connected with them. Notwithstanding all the prohibitions against excessive feasting—the Gild statutes often declaring "that not eating and drinking, but mutual assistance and justice, were the principal objects of the Gild"—it still prevailed.

The Capitularies of Hinemar, under date A.D. 858, and which were believed to have been associated with the Gilds, contain ordinances against the extravagances of the priests at funeral meals, and at the feasting which used to follow their meetings, especially those of the priests of a deanery (or *diocناسيا*) on the 1st of each month. No priest was to get drunk at them, nor was he to empty goblets to the health of saints, or of the soul of the deceased; nor was he to force others to drink, nor get drunk himself, at the desire of others. The priests were not to burst out into indecent noise or roaring laughter; they were not to sing vain songs, nor tell inane jokes; nor were they to allow scandalous performances of bears or female dancers to be made before them; nor delight in other mummeries, "because this were heathenish, and forbidden by Canon Law." Nor were they on every occasion to provoke each other, or anybody else, to passion and quarrels, and still less to fighting and murder; nor was he who was provoked to assail at once his provoker. On the contrary, the priests were to breakfast with honesty and fear of God; holy stories and admonitions were to be read, and hymns sung, and every one was to go home in good time. Exactly the same ordinances are contained in the Capitularies of Bishop Walter of Orleans.—*Vide* Brentano's Preliminary Essay.

In later times the Clergy assembled on the first day of each month to deliberate on their interests; and here they became united into special fraternities, which—from their meeting-day on the Kalends of each month—were called the *Gilds of the Kalenders*; and these were probably the only Gilds which were composed entirely of ecclesiastics. In later times laymen took part even in these. [*Gilds of Kalendars*.]

The Reformation of the 16th century interfered greatly with the Gilds of the country generally, and with the Religious Gilds especially. This will be spoken of in some detail in its chronological place.

It is well known that the Gilds, other than those of the purely religious order, kept up some sort of religious observances, at their annual feast at least, if not on ordinary occasions. In the *Liber Niger*, or Black Book of the Corporation of London, there is a description of the Anniversary Feast of the Gild of the Holy Cross at Abingdon, from which Blomefield probably drew the following details: "The fraternity hold their feast yearly on the 3rd May, the invention of the Holy Cross; and then they used to have 12 priests to sing a *dirige*, for which they gave them 4d. a piece; they had also 12 minstrels, who had 2s. 3d. besides their dyet and horse-meat. At one of these feasts

(A.D. 1445) they had 6 calves valued at 2s. 2d. a piece; 16 lambs, 12d. a piece; 80 capons, 3d. a piece; 80 geese, 2d. a piece; 800 eggs, which cost 5d. the 100, and many marrow bones, cream and flour; besides what their servants and others brought in; and pageants and plays and May-games, to captivate the senses of the zealous beholders." If this were simply a religious Gild, then it is clear that feasting formed as distinct a feature as it does with the Commercial Gilds of the present day.

Bishop Rock [Romish Church] offers the following eloquent defence of these religious festivals and their influence on mankind:

Each Gild's first steps were bent towards their church, where solemn high mass was chanted; thence went all the brotherhood to their hall for the festive dinner. The processions on the occasion and other amusements so dear to Englishmen, when their country was merry England, were meant to be edifying and instructive, and helped religion to make her children both good and happy, through even their recreations. This present age, with its stepmother's chill heart, dull eye, and hard iron-like feelings, that sees naught but idleness in a few hours' harmless pause from toil, and knows nothing but unthriftiness in money spent in pious ceremonial, and thinks that the God who sprinkled the blue heaven with silvery stars, and strewed the green earth with sweet-breathing flowers of a thousand hues, and taught the birds to make every grove ring with their blithe songs, and told the little brook to run forth with a glad some ripple, all in worship of Himself, can be best and most honoured by the highest and noblest of His wonderful works—the soul of man—the more gloomy, the more morose, the sorer it is; such an age will not understand the good which, in a moral and social point of view, was bestowed upon this country by the religious pageants, and pious plays and interludes of a by-gone epoch. Through such means, however, not only were the working-classes furnished with a needful relaxation, but their very merry-makings instructed while they diverted.—*Church of our Fathers*, etc., 1849 (vol. ii. p. 418).

Gilds of the Kalenders.—We have shown how these took their rise out of the monthly meetings of the clergy, assembled to deliberate on church affairs, and how—after the genius of the Middle Ages—these became converted into fraternities, afterwards called Gilds. At first they were limited to the clergy, but after a time laymen took part in them; and then the only distinction between these and the other Religious Gilds was: that whilst proportionally, only a few clergymen belonged to the others (and even they were sometimes expressly excluded from office); in these the clergy prevailed. Often the number of members was limited—sometimes to the number of the Apostles; at other times to 24. In this case the number of lay members was always fixed in proportion to that of the clerical members. Thus the Gild of St. Canute at Flensburg consisted, according to the statutes from the year 1382, of 24 priests; but whenever this number could not be filled up, laymen might be admitted, but only to the number of 8 at the outside. The wives of laymen were, however, excluded from the meetings till the year 1422. In this year the Gild-book narrates, that the ecclesiastical brothers were moved by the prayers of the lay brothers, repeated for several years, to grant the admission of their wives to the meals after the general meetings. There was, however, to be one condition: the wife of the lay brother, whose turn it was, had to provide the meal and to wait at table! The Mayor and his wife were to have the first turn.

The laymen, however, always remained in a subordinate position. At the meals they had seats separate from those of the priests—probably because the latter talked over their affairs at table—and in the deliberations the laymen had no vote. As among the other Religious Gilds, there were special ones for various classes and ranks, so there existed also Gilds for the higher and the lower clergy, the so-called Major and Minor Gilds of the Kalenders.

One Gild of Kalenders existed in almost every town; in the larger towns even more. The organization of these were the same as in other Gilds. Often the president was called Dean—perhaps a remnant of the origin of these Gilds. Often, too, the Gilds of the Kalenders had halls like other Gilds; and, as in the lay Gilds, the brothers of the ecclesiastical Gilds used to go there daily "to beer and to wine."—*Brentano*, p. xc. (See *Bristol*, 1388.)

These probably were the only Gilds which ever fell within the strict definition of *Religious Gilds*.

Social Gilds.—These, which constitute one great and broad division of Gilds, were founded upon the wide basis of brotherly aid and moral comeliness, without distinction (unless expressly specified) of calling or creed; and comprehended a great variety of objects. It is probable indeed that they did not stand out as a distinct class until after the Reformation: for up to that period all Gilds had been more or less strongly marked by those features which we have already assigned more especially to Religious Gilds. It seems indeed that, taken as a class, the Social Gilds are in truth the reformed Religious Gilds. There will be some exceptions marked out as we proceed.

The Social Gilds of which we here speak are such as were devoted to objects of good fellowship; to purposes of benevolence; and to the formation of provident habits; as distinguished from religious professions on the one hand, and trading and industrial pursuits on the other.

While religious observances were commonly associated with Gilds, these do not seem really to have formed any essential part of their constitution. This was declared very emphatically by Mr. Toulmin Smith, in his *Old Crown House* (Birmingham), p. 31:

These were not in any sense superstitious foundations; that is, they were not founded, like monasteries and priories, for men devoted to what were deemed religious exercises. Priests might

belong to them, and often did so, in their private capacities. But the Gilds were lay bodies, and existed for lay purposes, and the better to enable those who belonged to them rightly and understandingly to fulfil their neighbourly duties as free men in a free State. . . . It is quite true that, as the Lord Mayor, and Lincoln's Inn, and many other as well-known personages and public bodies, have to this day a chaplain, so these old Gilds often took measures and made payments, to enable the rites of religion to be brought more certainly within the reach of all who belonged to them. This was one of the most natural and becoming of the consequences following from their existence and character. It did not make them into superstitious bodies.

The instance of three Gilds at Cambridge is quoted in proof. In one of these (Gild of the Annunciation) priests are excluded altogether; in another, if they enter they are to take no part in the management; while in the third, if the funds became low, the chaplain's pay was to be stopped, rather than infringe upon the allowance to the poor brethren.

There appears to have been usually no limit to the number of members of which a Gild of this class might be composed; although in some cases there was, and very naturally, a limit as to the rank of the members: for in a Gild in which members of high social rank were admitted, it might be fairly assumed that the contributions demanded would be higher than in the case of Gilds composed of the middle class only. The Gild of Corpus Christi, York, had the names of some 14,850 members on its rolls; while the numbers of the Gild of St. George at Norwich are known to have been very great. It is, however, probable that Gilds in the ordinary way consisted of a much smaller number of persons—very much after the manner of local Friendly Societies of the present day.

As to the rank of members, the Gild of St. Michael-on-the-Hill, Lincoln, declared its roll to be "of the rank of common and middling folks," and it did not wish to admit any of the rank of Mayor or Bailiff. The Gild of the Trinity, Coventry, admitted many famous men, even (on the authority of Dugdale) enrolling Kings Hen. IV. and Hen. VI. among its members; while in later times the Gild of St. Barbara of St. Katharine's Church, near the Tower of London, could point out Hen. VIII. and Cardinal Wolsey as brethren.—Strype's *Stow*.

Gilds-Merchant [*Gildæ Mercatorie*].—To what period in the history of Gilds we may assign the origin of Merchant Gilds is by no means an easy point to determine. It is known that they existed in England at a very early date, even in the Anglo-Saxon times. The Gilds of Dover, of the Thanes at Canterbury, as also perhaps the Gild-Merchant of London, are instances; and some others will be noted as we proceed. At a somewhat later period are to be ranked the Gild-Merchant of York, the great Gild of St. John at Beverley, that of the Hanshouse of Beverley, as also that of the Blessed Mary at Chesterfield.

There seems good ground for believing that as early as the 10th century, and prob. before, there was an order of monks in the North of Germany whose chief occupation was commerce, and who prob. encouraged and protected the Gilds, as being in the direction of their aims. These were known as the Grand Masters of the Teutonic Orders. They founded a branch in Lond. during the reign of Edward the Confessor, in the 11th century, under the name of *Gilhalda Teutonicorum*, under which title we shall speak of it in some detail. In this designation we have the direct derivation of the word *Gildhall*: the Hall of the Gilds; which designation survives long after the Order itself has passed away. The Order in London became afterwards a branch of the *Hanseatic League*; and yet later was designated as the *Merchants of the Steelyard*, which latter were swept away by Queen Elizabeth in 1597. The Lombards then reigned in their stead.

These Merchant Gilds are believed in many cases to have arisen quite independently of the towns wherein they were located; but in other cases they seem from the beginning to have been identified with the town, and its corporate government. The Old Usages of Winchester contain many evidences of an early relationship of this kind between the Gild of Merchants there and the whole body of the citizens; and the same applies to the Ordinances of Worcester.

One of these Gilds-Merchant existed at York in the time of Henry I. (1100-35). At this date the Gild of Beverley was constituted after its model. *It became the general rule to confirm the Gild of a town by granting it all the liberties which another town already enjoyed.* Wilda quotes from Madox, as towns which had received this confirmation under Henry II. (1154-89), Winchester, Shrewsbury, Andover, Southampton, Wallingford; under Rich. I. (1189-99), Gloucester; under John (1199-1216) Helleston and Dunwich; under Henry III. (1216-72) Hereford. In the reign of this latter king the Gild of Chesterfield took its rise. We think it probable that whenever the King visited any town for the first time, especially during periods of war and civil commotion, and received aid and support from its inhabitants, that he either extended the privileges of its Gild; or if this had been already done, that he granted it the rights of corporation.

But apart from instances of Royal favour, let us consider for a passing moment the natural course of events. Security from external dangers, and the maintenance of peace and good government in their towns, had obviously been among the original motives of the burghers in uniting themselves into Gilds. But as almost all Gild-brothers carried on trade, the once existing organization was soon used for the furthering the common trade interests; for it was, as we have seen, in the nature of the Gild to provide generally for

all wants which the family union was no longer sufficient to satisfy, and for the provisions of which the State was not yet developed and strong enough. To confederate in defence of liberty and right, was in itself the first requisite for the prosperity of trade and traffic. Moreover, it was the especial endeavour of the Gild to obtain privileges which would further trade: for instance, the right of coinage, staple-right, immunity from tolls, etc. The Gilds provided also for the regulation of industry, and for buying and selling; and for institutions such as the Cloth-Halls, with their severe control of wares, of which there existed one as early as 1060 at Valenciennes. The sooner the town became chiefly a commercial place, the sooner did the Gild there take the character of a Merchant-Gild. Though the Merchant-Gilds consisted chiefly of merchants, yet from the first craftsmen as such were not excluded from them. But of this we shall speak more in detail under CRAFT-GILDS.—*Vide* Brentano.

Mr. Pike (*Hist. of Crime*, vol. i. p. 64) offers some suggestive obs. also upon the Gilds of this class:

Thus far the Gild has been regarded in only two of its aspects—as the Police-Gild, and as the Social-Gild. It has, however, another, and in later times more familiar aspect—as the Trading-Gild. How one sprang from another, or which was the first in origin, it would, perhaps, be impossible to determine with certainty. The Trading-Gild appears in more forms than one—as the Gild-Merchant, which it is difficult to distinguish from the Town-Corporation, and as the Gild of Craftsmen. The Craft-Gilds do not come into notice before the Norman Conquest, but, on the other hand, they show themselves soon afterwards, and there seems to be no good reason for denying them any previous existence. An antiquity, extending at least as far back as the time of Edward the Confessor, is claimed for the Gild-Merchant, and allowed, in the later charters, to some of the Towns; the Gild-hall of the Burgesses at Dover, and the Gild of Burgesses at Canterbury, are mentioned in Domesday-book. In the earliest record of the Exchequer after Domesday, the Gilds of Weavers appear to be regularly constituted, and perfectly familiar to the revenue officers. . . .

As to the Gilds of this class see further, 1272-1307.

It was probably at the instance of the Gilds-Merchant that the *Hanseatic League* was founded. The important part which it played in the commerce of Europe during several centuries will be treated of in detail under that title, in its alphabetical place.

The "Customal of Preston," given in Dobson and Harland's *Hist. of Preston Gild* (2nd ed. p. 73), contains the following:

1. So that they shall have a Gild-mercatory, with Hanse, and other customs and liberties belonging to such Gild; and so that no one who is not of that Gild shall make any merchandize in the said town, unless with the will of the burgesses.

2. If any nativus [born bondman] dwell anywhere in the same town, and holds any land, and be in the forenamed Gild and Hanse, and pay lot and scot with the same burgesses for one year and one day, then he shall not be reclaimed by his lord, but shall remain free in the same town.

Town or Corporation Gilds [Burg-Gilds].—We think it may be fairly assumed that this class of Gilds arose out of the progressive action of the Frith-Gilds, and of the Craft-Gilds; and probably in part out of the conflict which came to be waged between the two. Nearly all writers upon this portion of Gild history have been perplexed, and have failed to make clear alike the period and the precise elements of the transition. We do not expect to be able, with the comparatively limited space at our command, to clear up a problem which has defied accumulated volumes. The Gilds-Merchant in some cases appear to have led directly up to Corporate-Gilds; for which indeed the latter was but another name.

In a Charter granted by Edward II. (1307-27) to the citizens of London, it was provided that no person, whether an inhabitant of the City or otherwise, *should be admitted into the civil freedom, unless he was a member of one of the Trades or Mysteries*, or unless with the full consent of the whole community convened; only that apprentices might still be admitted according to the estab. form. Norton says, "*Before this, no mention occurs of any mercantile qualification to entitle the householder to his admission to the Corporation.*"—*Commentaries on Lond.* 120.

In 49 Edw. III. (1375) an enactment was passed the whole assembled commonalty of the City, by which the right of election of all City dignitaries and officers, including Members of Parl., was transferred *from the Ward representatives to the Trading Cos.*; a few members of which were directed to be selected by the masters or wardens to come to the Gildhall for election purposes; and in them it has continued to the present time; only that by a subsequent Act of Common Council, it was opened to *all* the Liverymen of Cos. generally; and that right, which indeed, without such sanction, had no legal authority, was finally confirmed to such liverymen, as being freemen of the Corp. of London, by Stat. 11 Geo. I. c. 18 (1724).—Herbert's *Great Livery Cos. of London*, vol. i. p. 32.

Dr. Brentano suggests that when, after the Ordinance under Edward II., all citizens of London were obliged to belong to Trade-Gilds, the old burghers prob. entered (as in a similar case the old ruling families of Cologne did) into some of the better Trade-Gilds, from which in later days sprang the so-called 12 great Cos. of the City (London); and that they pursued under new shapes their old political and industrial interests. Already, towards the end of the reign of Edw. III., the separation of these richer Cos. from the poorer ones may be observed. They gained permanent influence in the Common Council; and from this time dates the still-existing custom of choosing the Mayor of London exclusively from them.

In the following century—reign of Hen. VI.—the victory of the Crafts was general in

England ; for about that time the Kings (as Madox tells us) began generally to recognize the constitution and liberties of towns in other terms than by confirming their Gilds. "They granted to the men of a town or burgh that they should be a *communitas perpetua et corporata*—a corporate and perpetual community." The Craft-Gilds, whose rise the old City authorities had endeavoured till now to suppress, obtained the victory in the manner we have already traced in our account of them.

Dr. Brentano says further :

"A short examination of the Statutes of the Town-Gilds will justify our claim for these confederations of towns to be shoots from the same root, fruits from the same tree, and higher stages of the same development from which the Frith-Gilds sprang. From the time when these Frith-Gilds stood at the head of the towns, their Statutes show, without a particle of change, the essential nature of the Gilds as disclosed by the Gild-Stat. of Cambridge. These Gilds appear as an enlarged great family, whose object is to afford such assistance to their members in all circumstances of life as one brother might expect from another ; and consequently, above all things, protection against the unbridled arbitrariness of the mighty—whether exercised by violence, or attempted at law by means of numerous friends as compurgators. The Gilds do not appear, however, as Asso. for instituting a new law, but for maintaining the laws already existing ; for supplementing a system of order as yet defective and only in course of development ; and for guarding in common against the dangers attending a weak Gov."

Many of the towns whose government was in the hands of Gilds of this class—especially those accessible by the sea—had been founded by merchants. Like the modern so-called "Factories" of Asia and Africa, the old merchants fortified places from which they carried on trade with the surrounding people. But in all other towns also the great majority of the more respectable burghers lived by trade. In some cities the law-merchant, *i.e.* the law of the Gild, prevailed, as to matters in the city, and not the general law of the land. The Corporation of the Paris Merchants stood at the head of the Government of that city at a very early date. It is supposed that the constitution of London was originally based on that of a Gild.—*Brentano*, pp. civ-v.

Mr. M'Culloch, who had made an elaborate study of the progress of Commerce, points out that the Gilds which existed at an early period in most boroughs of any importance, consisted of associations of those carrying on different trades [Craft-Gilds]—similar in some respects to the colleges of workmen among the ancient Romans—formed for the purpose of watching over their common interests, and of managing their common property. The spirit of monopoly and exclusion, he thinks, gave strength and consistence to these institutions. Their members gradually acquired various privileges ; and having also, in certain matters, a separate jurisdiction exercised by their own officers in their own Gild-halls, they generally succeeded, in no long time, in engrossing the privileges and jurisdiction that originally belonged to the burgesses at large ; so that the borough itself was sometimes merged in the Gild-merchant, or combination of the separate Gilds. The substitution of the title of freeman for that of burgess, which took place in many boroughs, appears to have been a consequence of this change : and no doubt originated in the custom of admitting certain persons, either through apprenticeship or purchase, to the freedom of the Gilds or subsidiary corporations. This is particularly seen in the City of London, where the rights of burgesses have long been in the exclusive possession of the liverymen or freemen of the different Trading Companies ; though the old division into wards, and the mode of election according to wards, still subsists.—M'Culloch's *Brit. Empire*, vol. ii. pp. 292-3.

On the other hand, where the government of a town was found simply taking the form of a Gild, it has been supposed that the circumstance may have originated by a combination of the Frith-Gilds. "According to the *Judicia Civitatus Lundoniæ* of the time of King Athelstan, the Frith-Gilds of London united to form one Gild that they might carry out their aims the more vigorously. This united Gild governed the town ; as is proved by the fact that their regulations bound even non-members. The occasion of this union was perhaps that here, as afterwards in other places, other Gilds had gradually formed by the side of the original sole Gild, and rivalries between the old and the new prejudiced the attainment of the aim of the Gilds—the protection of freedom and of right. Possibly the English *Knighten Gild* was this original one. According to Madox the alderman of the Knighten Gild was the alderman of the Merchant Gild of the City. Nor is our conjecture contradicted by Stow's statement as to the date of the origin of this Gild : for this was prob. only a sanction for the Gild's possession of landed property which it had received from King Edgar. It would not of course require royal permission to come into existence. The Knighten Gild had possession and jurisdiction both within and without the City. . . . It was thus prob. a Gild like that of the Thanes of Canterbury."—*Brentano*, p. xcix.

We learn from the same authority that a similar union took place 3 centuries later at Berwick-upon-Tweed. In the years 1283-4 the townsmen of Berwick agreed upon the Statutes of a single united Gild : "That where many bodies are found side by side in one place, they may become one, and have one will, and, in the dealings of one toward another, have a strong and hearty love." Art. I. therefore provides that "all separate

Gilds heretofore existing in the borough shall be brought to an end," and that "no other Gild shall be allowed in the borough." All formerly existing Gilds were to hand over to this one Gild the goods rightfully belonging to them, and "all shall be as members having one head; one in counsel, one body strong and friendly." The way in which this stat. was drawn up is considered to show clearly that "citizen" and "Gild-brother" were considered identical. It also contained a series of regulations concerning the administration of the town, the police of the markets, and various other points of municipal interest. The words of the preamble and of the 1st Art. showed that, before the union of the various Gilds, rivalries detrimental to the body of the citizens had sprung up. The succeeding articles make it clear that only the better inhabitants, the merchants, were Gild-brethren and citizens; and several of the articles pointed out that at least one of the consolidated Gilds had been a Frith-Gild, which originally coincided with the whole body of citizens. See *Berwick-upon-Tweed*, 1388. The writer continues:

It may be that this first Gild included—as was the case in Canterbury—the old families, the original possessors of the soil in and around the town, who either then or afterwards carried on trade; or that it acquired with the growth of the town an aristocratic family character, as was the case in many German towns; or that it limited, for other reasons, the number of its members. Then new Gilds arose, whose members were but little, or not at all, behind those of the first, either in rank, social consideration, or wealth, and who therefore strove for an equal share in the government of the town. This led, in Berwick, to the above-noticed amalgamation of the Gilds; and in the German cities to a participation in the Town Councils.

Sir William Blackstone says tersely: "Such of these Gilds as were commercial gradually took the shape of our Municipal Corporations, whose place of meeting, it may be observed, is still called the Guildhall." Of this class were the Gilds of *Beverley*, *Coventry*, *Berwick*, and some others to be hereafter spoken of more in detail.

Maitland, in his *Hist. of Edinburgh* (1753), gives the following account bearing upon the origin of Municipal Gilds, differing in some views from any other we have seen:

... Towns being erected in the neighbourhood of castles for their protection, had the name of *Burgh* or *Burghs* given to them; and as the soldiers who garrisoned the said Burghs, were called *Burghers*, so the inhabitants of the Towns or New Burghs likewise received the name of *Burghers*—now corruptly *Burgesses*; and the said *Burgesses* being formed into a community, the constitutions made for their good government were denominated the *Burgh* or *Borough Laws*, and the *Burgesses* or inhabitants of the said Burghs, perceiving the benefit resulting from the said community, erected themselves into *Cos.* or *Gilds*, as their several interests led them. But those *Sos.* being regarded by some *Burghs* as spurious, for being set up without *their authority*, dissolved them, and in their stead constituted a *General So.* or *Corp.* of *Merchants*, denominated the *Gild*. An instance whereof we had in the year 1283, by Robert Durbane, Mayor of *Berwick* upon the river *Tweed*.

But when or by whom *Edinburgh* was constituted a *Burgh Royal*, I cannot ascertain; yet that it is one of the most ancient in Scot. I think is manifest, by its being the principal of the four Burghs in the year 1348, when David II. in a Parl. held at *Perth* ordained that, as long as the Burghs of *Berwick* and *Roxburgh*, which had been two of the said four Burghs, remained in possession of the English, the Burghs of *Lanark* and *Linlithgow* should be put in their stead. And as in that Act it is said that these four Burghs in ancient times held the Chamberlain's Court annually at *Haddington*, in the County of *East Lothian*, it is thereby evident that *Edinburgh* must be one of the most ancient of the said Royal Burghs.

When he comes to speak of the Gild in *Edinburgh*, he adds:

This Fraternity, being a Co. of Merchants, commonly called the *Gildry*, is the first and most ancient Corp. in *Edinburgh*; and, like other Gilds throughout Scotland, owes its origin to that of *Berwick*, above mentioned; but when or by whom incorp. I cannot learn. Be that as it will, the magistrates and common council-men of this City were, for divers ages, chosen out of the same, exclusive of the Trades or Craftsmen; nay, in effect, they are so still, by a majority of merchants of the Town Council; whereby they carry things according to their mind, unless divided amongst themselves, which seldom happens.

The chief officer of this community is entitled the *Dean of Gild*, who, assisted by a council consisting of three merchants and three tradesmen, chosen by the Common Council, determine all differences betwixt merchants, and between them and mariners, with the greatest dispatch, in a summary way. To them belong the superintendency of all Buildings, both public and private, within the City and Liberties, both in respect to their Construction and Repairs, for preventing mischief which otherwise might happen by their not being carefully inspected. They also admit persons into the freedom of the City, adjust weights and measures, and prevent forestalling staple commodities, as set forth in the constitutions of the Dean of Gilds Court, above recited.

Regarding the determination of disputes by the Gild as here stated, it seems a power analogous to that exercised by the CHAMBERS OF ASSURANCE in England at an early date.

Craft-Gilds.—These, which embody the other and broad class of Gilds (as distinguished from Social Gilds), were formerly very numerous—prob. at least one for every trade carried on in large cities. They shared, in their constitution, many of the principles of the Social Gilds; but they were formed for the benefit of their members as craftsmen, *i.e.* manufacturing traders, and for the regulation of their craft. In this latter respect they have been supposed to bear some analogy to the Trades Unions of modern times; but in truth there is hardly any analogy. The craftsmen of the middle ages were really masters, struggling to maintain political and mercantile freedom. The era of workmen so socially debased as to be always workmen, and nothing more, had not commenced.

It seems clear that in earlier times the craftsmen were frequently members of the Merchant-Gilds. The strict separation which at a later date existed between the Merchants and the Craftsmen did not then indeed exist; and probably only came about by degrees later. Originally the craftsmen traded in the raw materials which they worked with. Thus the London tailors were even in the time of Edward III. (1327-77) the great importers of woollen cloth; and as late as the 16th century the brewers of

Hamburg were the principal corn-merchants. The growth of wealth and of the number of the people necessarily called forth greater division of labour ; the full citizens having become rich, only carried on trade, whilst the handicraft was left exclusively to the poor and the unfree. The poor were originally excluded from full citizenship and from the Gild by the want of a property qualification ; and when, in consequence of the development which has just been explained, the poor and the craftsmen became identical, this led to the ordinance repeated in the Danish, German, and Belgian Gild-Statutes, that no one "with dirty hands" or "with blue nails," or "who hawked his wares in the streets," should become a member of the Gild ; and that craftsmen, before being admitted, must have forsworn their trade for a year and a day.

The stipulation in the Statutes of Skanör, under date 1266, "that no baker should *henceforth* be accepted as a member of the Gild," belongs probably to the transition period already spoken of ; but it has been surmised that the bakers there had formerly been corn-merchants too. Such a state of transition is also to be inferred from the Statutes of Berwick (see 1388), according to which no butcher, as long as he carried on his trade, was to deal in wool or hides ; in order to do so he must forswear his axe. The facts here appear to be that the Gild of Berwick was a decided Merchant-Gild, and that the members traded chiefly in wool or hides. Formerly this branch of trade was unquestionably carried on by the butchers. But after the craftsmen had been excluded from the Gild, the butchers were forbidden to carry on a trade practised by the Gild members. A like case was when the old town of Gant (Ghent) forbade, in favour of the Gild-Merchant there, that clothes should be dyed for craftsmen.

But the exclusion of the craftsman from these Merchant-Gilds was not all ; they soon assumed first to rule him, and then to oppress him. This led to civil strife in some parts of Europe, and to a fierce conflict in England. The craftsmen contended for equality of political rights and of justice. In the end mixed governing bodies were formed, consisting of the landed aristocracy on the one hand, and the manufacturing traders (craftsmen) on the other. "In some places, it is true, the craftsmen compelled the patricians to enter their fraternities if they wished to take part in the government of the towns ; but even then the great soon got such paramount influence, that new laws had to provide that the 'small folk' should form half of the council of the Craft-Gild. The craftsmen did not, however, in the long run, remain at the head of the town ; but the political equality which their efforts had obtained was maintained in principle ; the old Gild constitution was replaced by that of the 'commune.'"—*Brentano*, p. cxi.

This leads up to Corporation or Town Gilds, of which we have already spoken.

Dr. Brentano further remarks that after the free handicraftsmen had been expelled from the full citizens' [corporate] Gilds, their relation to the old burghers was similar to that of the ancient freemen at the time when they confederated into Gilds for protection against the aggressions of the great. On the one hand, the citizens endeavoured to suppress the handicraftsmen into a kind of subjection, and on the other, it was in their power to take measures injurious to the craftsmen. Isolated, the latter must have succumbed to the difficulty of their circumstances : hence these of necessity called forth the same free organization of free craftsmen as that of the old freemen in earlier times. "The constitution of the old Gilds evidently served as the model of the Craft-Gilds, and it appears to have been altered only in so far as a change was rendered necessary by the peculiar wants of the craftsmen which made them confederate into Gilds, namely, protection of the industry of the freemen."

The transfer of all trade concerns in towns to the management and jurisdiction of the Craft-Gild, to which we have already referred, was generally accomplished by a confirmation of their Ordin., that every one carrying on the trade within the town or a certain district should join and belong to the Gild. And in return for this privilege, the Gild was yearly to pay certain taxes. *In London these taxes went to the King*. Thus, under Henry I. (1100-33), and every succeeding king, the London weavers paid to the crown a rent or ferme for their Gild ; and Madox enumerates 18 Gilds which, under Henry II. (1154-89), were amerced as adulterine, for neglecting to pay this tax. But as, in consequence of these privileges of the Craft-Gilds, the citizens no longer enjoyed undivided sway in the towns, they showed themselves everywhere extremely jealous of the jurisdiction which had thus sprung up in their midst, to their own detriment. They therefore opposed with all their might the estab. of Craft-Gilds ; and the whole hist. of these Gilds, till they obtained the mastery in the 14th and 15th centuries, appears as nothing else but one continual struggle of the handicraftsmen with the town for these privileges. The Norman kings however, equally ready to make the most of both these clashing interests for the benefit of their exchequer, seem to have put up to auction the confirmation and the suppression of these Gilds. As to the jealousies which existed between the Town and the Gilds, see *Exeter*, 1388.

The organization of the free craftsmen into Gilds Dr. Brentano considers was called forth by their want of protection against the abuse of power on the part of the lords of the town, who tried to reduce the free to the dependence of the unfree, and, by imposts and otherwise, to encroach on the freemen's earnings. Being organized, the Craft-Gildmen provided for the maintenance of the customs of their Craft, framed further Ordin.

for its regulation, saw these Ordin. properly executed, and punished the Gild-brothers who infringed them. The maintenance of their independence against the city authorities, and the possibility of carrying them out and making efficient their trade-rules, depended, however, on the condition that all who carried on the trade should belong to the Gild. "And though the first Gilds, at their formation, included doubtless all men of the trade, yet in course of time some one or more craftsmen must have turned up, *who, unwilling to submit to the rules framed for insuring good work, and for protecting the interests of the trade, would carry on his trade without belonging to the Gild.* It was impossible either to check this, and prevent detriment arising from it, or to enforce their regulation of the trade in a legitimate manner, unless the Gild had been previously acknowledged by the lord of the town, or the body of citizens. And thus, though the Craft-Gilds as voluntary societies did not need confirmation by the authorities at their birth, yet this confirmation became afterwards of the greatest importance when these Gilds wanted to be recognized as special and independent asso., which were thenceforth to regulate the trade instead of the authorities of the town. This once obtained, all further protective measures would follow as a matter of course."

For the complete independence of the Craft-Gilds, it was indispensable that they should have the right of freely electing a Warden for regulating their trade, and for managing the Gild. In England this freedom seems never to have been restricted. But on the Continent the right of appointing the Warden of a Craft-Gild varied according to the nature of the origin of the Gild, or the degree of independence which the particular handicraft enjoyed at the time when its Gild was recognized. In Dr. Brentano's Essay many instances of this are cited.

Mr. Pike also speaks of the monopolizing character of the Craft-Gilds, as they came to grow in importance, and traces its influence upon the individual members :

As a Gildsman of the later kind, he would apparently have been in a position somewhat like that of a modern workman who works not for a master, but for his own profit, and who might be fairly called a small tradesman. The object of the Craft-Gild was to protect such workers against the competition of persons who were not members, just as one object of the Gild recognized in the earliest charters was to secure collectively as great a monopoly as possible for the particular town in which it was estab. It was not founded, like modern Trades-Unions, to assert the rights of labour against capital, but to keep the market for the goods supplied by its members to those members exclusively. As, however, capital gradually increased, a new phase of society presented itself. The Craft-Gild became powerless, and even meaningless, so far as the mere workman was concerned, and useful only to his employer. The City Cos., famous for the banners which they exhibit on the 9th Nov., and for their hospitality at other seasons, are, it is almost needless to remark, little in common with those combinations of Craftsmen which have become prominent in the 19th century.—*Vide Hist. of Crime* (vol. i. p. 378). See 1272-1307.

The fundamental principle of the Craft-Gilds was much the same as that of the Frith-Gilds. Like these, the object of the early Craft-Gilds was to create relations as if among brothers ; and, above all things, to grant to their members that assistance which the member of a family might expect from that family. As men's wants had become different, this assistance no longer concerned the protection of life, limbs, and property ; but the principal object of the Craft-Gilds was to secure their members in the independent, unimpaired and regular earning of their daily bread by means of their craft. When then the Craft-Gilds, like the earlier Town-Gilds for the maintenance of justice, were legally recognized, and were brought into the State organism as special Asso. for the regulation of their trade, a new fundamental element, namely, their quality as a police authority, was added to the element common to all Gilds. "Both these elements were to be found in the Craft-Gilds of all countries ; indeed, in all they attained a development so similar, even in details, *that whosoever knows the Gild-Statutes of one country, knows those of all.*" Only in certain concrete regulations were there deviations ; and these have been pointed out in detail in Dr. Brentano's Essay.

The *income* of the Gilds of this class consisted of small entrance fees ; of wax for the churches ; and of taxes which were levied for special purposes as they occurred : for instance, on the death, impoverishment, pilgrimage, etc., of a member. Regular periodical contributions are only met with at a later stage.

The *Rules*, to which all the men of the trade had to submit, had reference (1) partly to *securing the good quality of the work* ; and (2) partly, like all Gild-stat., to the temporal and eternal welfare of their members. On the plea of insuring the good quality of their wares, the Gild-stat. often ordain that "no one shall work longer than from the beginning of the day until curfew," nor "at night by candle-light." But Dr. Brentano considers that the real ground for this regulation was regard for the well-being of the Gild-brothers ; "it was the wish to give them leisure for fulfilling their domestic and political duties ; and to prevent the collective body from being forced to over-exertions by the competition of a few too zealous for gain, and from being thus deprived of every enjoyment of life." Similar considerations, he thinks, were sometimes the cause for long holidays : as, for instance, the prohibition of the London weavers to work between Christmas and Purification Day (Feb. 2nd). The same considerations, *supported by religious motives*, caused the strict prohibition of work on Sundays and festivals, and "on Saturday or the eve of a double feast, after noon has been rung." This last ordin., forbidding work on the last-mentioned afternoons, was common to all

countries, and had its origin in a custom of the Roman Catholic Church to solemnize the eve of festivals and Sundays by religious services. The Saturday afternoon holiday was in truth as common in England in the 13th and 14th centuries as it is now; but it was lost at the Reformation—only to be re-established during the present century, for another reason, viz. that of allowing members of Volunteer regiments to attend to their training.

There were other restrictions arising from this general tendency to prevent a ruinous competition amongst Gild-brothers, as being contrary to the spirit of brotherhood. Their ordinances were framed for the "better relief and commodity of the poorer sort." There were restrictions, too, as to the number of servants and apprentices which an individual member might have; also, as long as members of the Gild were out of work, no member was to work with non-members. And at an early period regulations as to prices, under supervision of the town authorities, became common. Hence it is sometimes contended that modern trades-unionism is but a revival of the old spirit of the Craft-Gilds. We think the analogy is but a superficial one.

There were not unfrequently several Gilds relating to the same Craft in the same town: for instance, in London there were orig. two Gilds of Tanners—one without Newgate, and one without Cripplegate; and there were 4 Weavers Gilds at Cologne in the 13th century. "Sometimes the richer craftsmen withdrew from their poorer brethren into separate Gilds—as, for instance, the Shoemakers from the Cobblers; the Tanners from the Shoemakers."—*Brentano*, p. cxxxix.

The early Craft-Gilds did unquestionably aim at establishing a community of interests among their members. Hence it was sometimes enacted that no Gild-associate was to entice away a brother's customers, nor a brother's servant. Other stat. preclude working for a customer who was indebted to a brother. Others provided that any member becoming poor from "adventures on the sea, or the advanced price of merchandize, or by borrowing and pledging, or by any other misfortunes," might claim to be relieved in proportion to the fraternity's funds. Even as late as 1723 the bye-laws of the Gild of the Joiners and Carpenters of Worcester ordained, "that wherever any freeman buys any parcel of timber or boards coming to the city to be sold, and fit for the crafts, every freeman may have a share therein, not exceeding [in the whole?] a third, at cost price, on request, and paying ready money, under penalty of 20s. for refusing to share." In some of the Gild-statutes there were, after the manner of the time, sumptuary laws, and especially with reference to apprentices. On the other hand, the common feast, held frequently in their own magnificent halls, was a general feature. Is not the annual Cutlers' feast at Sheffield a modern continuation of the same practice?

Finally—again quoting Dr. Brentano's exhaustive Essay—the Gild, "which, as we have shown, stood like a loving mother, providing and assisting, at the side of her sons in every circumstance of life, cared for her children even after death; and the ordinances as to this last act breathe the same spirit of equality among her sons, on which all her regulations were founded, and which constituted her strength. In cases of insolvency at death, the funerals of poor members were to be equally respected with those of the rich." (p. cxxxiii.)

Upon the Craft-Gilds, as also sometimes upon the Merchant-Gilds, did the defence of the town devolve. They formed in many cases a portion of the military defence of the town or province. The Gild-statutes of Continental cities especially abound with references to this branch of duty; and brilliant were some of the victories—as, for instance, the Butchers of Liège at Steppes, in 1213; the Flemish Weavers at Courtrai, in 1302; the Furriers of Brussels at the siege of Malines, in 1303; and the Journeymen Bakers of Munich at Amping, in 1322. The Trainbands of the last and present century were perhaps somewhat analogous. The Order of the *Knights' Templars* in England, and of the *Knights of the Holy Ghost* in Scotland, were prob. only military or fighting Gilds originally. We shall make some further reference to these. See *Anglo-Saxon* period.

The Craft-Gilds embodied other features common to the Religious and Social Gilds—indeed to all Gilds. Dr. Brentano speaks comprehensively on this point:

Besides being brotherhoods for the care of the temporal welfare of their members, the Craft-Gilds were, like the rest of the Gilds, at the same time Religious Fraternities. In the account of the origin of the Co. of Grocers [*Herbert*, vol. i. pp. 43-5] it is mentioned that, at the very first meeting, they fixed a stipend for the priest, who had to conduct the religious services, and to pray for their dead. *In this respect the Craft-Gilds of all countries are alike*; and in reading their statutes, one might fancy sometimes that the old craftsmen cared only for the well-being of their souls. All had particular Saints for patrons, after whom the So. was frequently called; and, where it was possible, they chose one who had some relation to their trade. They founded masses, altars, and painted windows in cathedrals; and even at the present day their coats of arms and their gifts range proudly by the side of those of Kings and Barons. Sometimes individual Craft-Gilds appear to have stood in special relations to a particular church, by virtue of which they had to perform special services, and received in return a special share in all the prayers of the clergy of that church. *In later times the Craft-Gilds frequently went in solemn procession to their churches.* We find innumerable ordinances also as to the support of the sick and poor; and to afford a settled asylum for distress, the London Cos. early built dwellings near their halls. The chief care, however, of the Gildmen was always directed to the welfare of the souls of the dead. Every year a requiem was sung for all departed Gild-brothers, when they were all mentioned by name; and on the death of any member, special services were held for his soul, and distribution of alms was made to the poor, who in return had to offer up prayers for the dead, as is still the custom in Roman Catholic countries. (p. cxxxiv.)

In proof, in the Stat. of the Fullers of Lincoln, founded 1297, was the following: "When any of the bretheren or susteren dies, the rest shall give a halfpenny each to buy bread to be given to the poor, for the soul's sake of the dead."

It remains but to add that the degeneration of these Craft-Gilds commenced almost simultaneously with their obtaining independence and authority in trade matters in the towns—stimulated by the overbearing character of their internal regulations—and proceeded with increasing rapidity. "In the 15th century the capitalist quality of the craftsmen becomes more and more prevalent among the requisites for obtaining membership; and ever more numerous become the restrictions by which they endeavoured to seclude themselves, and thus to make the handicrafts the monopolies of a few families. But this was even more the case in the following centuries; and therefore Lord Bacon, speaking of these Gilds, justly describes them as 'fraternities in evil.'"—*Brentano*, p. cxlix.

The transformation of the Craft-Gilds into Sos. of capitalists, exercised of course an influence on their government; and it appears altogether natural when, in the 16th century, we see that gov. entirely transferred into the hands of the richer Gild-members. The Gild-members were at this time divided into *three* classes—the livery, to which the richer masters were admitted; the householders, to which the rest of the masters belonged; and the journeymen belonging to the Gild, who were simply called "freemen," sometimes also "yeomanry" or "bachelors." Instead of the former sovereign meeting of all Gild-associates, there now appeared a "Court of Assistants," who governed the Gild, and enacted its ordinances. The first legal appointment of a Court of Assistants is met with under Philip and Mary (1554–8). After the time of James I., the transfer of the elective franchise from the "*communitas*" to the Courts of the Cos. became general in the charters: and in this manner, what had hitherto existed only on sufferance became legal. The King appointed the first members of the Court for life; as these withdrew or died off, the Court itself filled up the number from former masters and wardens. But these it likewise chose from amongst the liverymen. To the rest of the members election-day briefly meant the day on which they assembled in the Gild-hall to hear the names of the elected proclaimed. An *oath* was also introduced for all members, in which they swore to obey the Master and Wardens and their ordinances. Refractoriness towards the Gild, violation of its laws, refusal to accept office if elected—these were punished as formerly. The charitable regulations also remained the same as in former times.—*Brentano*.

In the modified form last described some of the more important Craft-Gilds have survived to our own time; and these are the only Gilds which have survived through successive ages. More homage is of late being paid to them than has been the case for several centuries. The *Religious* Gilds may be said to have died out altogether. The *Social* Gilds have taken the form and designation of Friendly Sos., although the title of Gild is being re-introduced. The *Merchant* and *Town* Gilds have merged into Municipal Corporations, or died out. All other kinds have either disappeared or changed their constitutions!

In the preceding review of Gilds as they have in past times presented themselves in practice, many details have necessarily been passed over; the broad lines alone have been dealt with. It seems clear that the main analogy which is to be traced between Friendly Sos. and Gilds must be limited to the case of the Social Gilds only. On the other hand, it must not be overlooked that the Merchant-Gilds, by the development of our commerce, and the extension of our trading ports, must have contributed very largely to the growth of Marine Ins. This part of the subject will be reviewed more in detail under title HANSEATIC LEAGUE.

It may be well to mention here that while the Gilds in England have led to such important results as affecting the corporate liberties of our cities and towns, and as developing our commerce, those of the Continent of Europe have sunk down into an entire loss of political significance. In the north of Europe some of them remain in the form of *local or corporate Fire Ins.* offices—how they attained to that position has not yet been made clear. In Germany, which was once a stronghold of the Gilds, they have simply degenerated (where not fire offices of the class named) into asso. whereof the members are entitled to receive certain benefits on the occurrence of certain emergencies; into in fact Benevolent Inst., limited in their operations to those who had previously contributed to their funds.

Administration.—We now propose to review some of the more prominent points in the administration of Gild affairs internally.

Legal Constitution.—Regarding the legal constitution of the early Gilds, it may, we think, be safely assumed—except in the instances where the Royal Licence was obtained—that they had none, other than this: they were associations formed for lawful and laudable purposes, and so ranked with the free institutions of the land. The frequent reference to Ordinances implies, indeed, some grant or authority from the sovereign power; but we suspect that any such grant must in the earlier periods have been quite exceptional. It has indeed been claimed for the Gilds that they made their own Ordinances, like the "Usages" of a Corporation, or the "Customary" of a Manor, or even the "Bye-laws" of a Parish.—Intro. to *English Gilds*, p. xxxviii.

The internal regulation of Gilds probably did not vary greatly whether the Gild were authorized or unauthorized. There would be the head officers, the "Graceman" (or Alderman); the Stewards (Wardens), in whose hands the property of the Gild rested, for administration; the Dean or Beadle; and finally the Clerk. Most of these offices were open to annual election; and those who would not serve, when their turn came, were fined. The Dean and the Clerk were paid salaries; and all the officers had special allowances on feast days.

We suspect that all Gilds which had not in some measure received Royal recognition were simply governed by bye-laws, and could not, for instance, use a common seal, or hold land.

When the Gild merged into and became the Municipal authority of the town, its functions became enlarged, and the number of its officers correspondingly increased. But we doubt if this could ever be accomplished by the simple and voluntary act of the members of the Gild themselves. The case of the amalgamation and transformation of the Gilds of Berwick-upon-Tweed (see 1388) certainly points in the opposite direction. Further, against the view we have expressed, it has been pointed out that the Gilds had the power of amending their own Ordinances, by resolution of the members at the annual or other assemblies. All corporations, however, have the power of altering and amending the regulations necessary to their internal management; but they have not the power of changing the base of their constitution, as from a voluntary Asso. into a chartered Co.

The Gilds appear to have been the least likely of all institutions to attempt any radical change in their constitution. Their respect for the law and its estab. forms has been pointed out as a most marked feature; and is abundantly proved by the constantly recurring declarations of their own regulations: "No Ordinances shall be made against the common law." "Rebels against the law shall be put out of the Gild." "The liberties of the town shall be upheld." They were always for order, and against change.

Royal Licence.—It is stated on the authority of Madox, that Gilds were founded under Licence from the Crown; and after the Norman Conquest this was undoubtedly so. It is further asserted to have been declared by law that "a Gild, either Religious or Secular, without the King's Licence, was a trespass;" and that in 26 Henry II. several Gilds were amerced to the Crown, for having been estab. without the King's Warrant. This is probably true, although we have not yet met with absolute confirmation; but Gilds were probably regarded as monopolies; and the authority to permit the estab. of these was claimed, and exercised, by the Crown, until Parl. at length asserted its right in this respect. The Gilds so founded without the Royal authority were designated *adulterine* Gilds; and it appears from Madox that they were liable to a fine *annually* for the exercise of their privileges. On the other hand, Dugdale [*Warwickshire* (ed. 1730), p. 188] observes that "they were in use long before any formal licences were granted unto them." Mr. Toulmin Smith takes the same view, and quotes in support the Gild of Stratford-on-Avon, and the St. George's Gild of Norwich, each of which was in existence for many years before special circumstances rendered the obtaining of official confirmation necessary. "It seems probable that the mistake has arisen through two things: first, the custom of inserting their Gild into the Charter when the men of any town got their rights confirmed, as was seen among the Gilds-Merchant; and second, the need there was for Gilds, like other corporate bodies, when they wished to acquire lands or tene-ments, to take out a Licence in Mortmain, under the Stat. of Mortmain."—Intro. to *English Gilds*, p. xxviii.

Oath on Admission.—The forms attending the admission of members varied in the several Gilds, but the oath of obedience seems to have been very general; and being received lovingly by the brethren with the kiss of peace was probably nearly as usual, in the social Gilds, in early times. A Gild did not in early times invariably require an oath, as in the case of Corpus Christi, York; but the exception was unusual. In the later period of Craft-Gilds it was always required.

The Oath of the Gild-Craft of the Tailors of Exeter, founded 1466, was as follows:

Ye shall swere that ye shall be gode and trew lovyng brother to the fratermyte of Synt John Baptiste of Taillourys in Exceter. Item, ye shall epleme no brother ne no man of this crafte at comon lawe, without leve of the Master and Wardens; but that it leke you to shew youre grevaunce and matere be-fore them, and ther to have remedy as fer forth as they maye, and els to take youre auauntage. Item, ye shall not deluyere youre luere of the fratermyte to no brother that hath forfeted ayens the fratermyte, that ye have knowlech of, ne to none other person whosome-euer he be, be-fore the yend of vj yere. Item, ye shall paye for youre clothyng, almese, and mete; that ys to saye, for youre almys, xij*d.* a yere; and for youre mete, viij*d.* on Midsomer daye, or the next day after; and for youre clothyng, as moche as ye take, withyn a moneth after. Item, ye shall be helpyng and counsellng with all youre power, yf ye know eny brother of this fratermyte, that hath don bys dewteys well and trewly to the fratermyte, come or fall to pouerte by the visitacion of god, or by casuell auenture, and hath not wher-of to leve, that he maye haue, every weke, of the almys of the sayde fratermyte, x*d.*; and, yf he haue be Master, to have xiiij*d.* a weke. Item, ye shall geve, in youre testament, to the almys of Synt John Baptyste, more or lesse after yowre estate and deuocyon that ye haue therto, in supportacion of the preste and pore men of the same, as god yow help and hollydom.

In the Social Gild of St. Katherine, at Stamford, estab. 1494, the Oath was as follows:

This here ye, Alderman:—I shall trewe man be to god almighty, to oure lady Seynt mary, and to that holy Virgyn and martir Seynt Kateryn, in whos honour and worshippe this Gilde is floundred;

and shal be obedynt to the Alderman of this Gilde, and to his successoures, and come to hym and to his Brederen when I have warnyng, and not absente myseiffe withoute cause resonable. I shalbe redy at scott and lotte, and all my duties truly pay and doo; the ordynauncis, constitucions, and rules, with the Councell off the same Gilde, kepe, obeye, and performe, and to my power maynety, to my lyuys ende; so helpe me god and hollydome, and by this boke.

They were then to "kys the Boke, and be louynglye receuyed with all the Brederen; and then drynke aboute; and, after that, departe for that nyghte."

The oath taken by the brethren of the Gild of St. George, at Norwich, resembled this.

Livery.—This term is used in a twofold sense in connexion with Gilds. In its modern sense it means those who have acquired the power of voting—they are said to have taken up their livery; which appears equivalent to saying that they became full members. But with the ancient Gilds every full member became entitled to wear the livery of the Gild, which was uniform in colour and style for all the members, with probably some variation in the gown or hood used by the brethren and sistren respectively. The ordinances frequently defined alike the occasions and the length of time they were expected to be worn. In 1389 (13 Rich. II.) an attempt was made to stop, by Parliamentary interference, the giving of liveries by the Gilds. The livery had in fact become an outward sign of social importance; and Parl. did about the date last named step in and prohibit the indiscriminate wearing of the same—making a well-marked distinction: "Gilds and Fraternities, and Crafts in the cities and boroughs within the kingdom, which are founded and ordained to good intent and purpose, alone being excepted." This may have been intended as a blow to unauthorized Gilds. Chaucer speaks of the "Livery of a solempne and grete fraternyte."

Funds and Property.—It was probably no part of the original object of Gilds to acquire property; yet many of them did so. Some indeed were endowed with land at their foundation, or had gifts of land or tenements made to them. Many acquired considerable effects in the shape of church ornaments, furniture of Gild-house, "properties" used in the plays, shows, etc.; as may be seen by inventories still preserved. Some Gilds invested in cows or oxen, and let them out at so much a year. This is recorded of the Gild of our Lady, at Byom (Derbyshire), which had "20 beeves" so employed. But probably by far the greater proportion of the Gilds simply received contributions in money or in kind, and distributed the same to their necessitous members, or otherwise as their Ordinances directed, without any especial object for, or power of, accumulation.

The stewards, aldermen, and other responsible officers, were usually required to render at least once in the year true accounts of the "catel" [effects], and of the funds of the Gild.

Seals.—It appears to have been the practice of each Gild to have its own peculiar Seal, under which was transacted all the business of the fraternity. King Henry V. granted such a seal to the Gilds of St. George, at Norwich, and of the Holy Trinity and St. George, at Bristol. Drake, in his "Eboracum," gives a representation of the seal belonging to the Gild of Corpus Christi, at York. Hence we trace back to this early period the use of Common (or Corporate) Seals.

Compulsory Membership.—Mr. Pike (*Hist. of Crime*, vol. i. p. 57) seems to think that in the early English period, membership in a Gild may have been compulsory, and in this sense have formed part of the police-system of the Kingdom—each tything (10 men, freeholders) or hundred being responsible for the good conduct of all who resided within it. He says:

With the practice of compurgation was intimately connected another inst. which lies at the root of the whole of the early system of police in England. This was the Guild, which at various times assumed various forms, but which in every form involved the principle of association, either voluntary or compulsory. In the earliest form of which we have any notice of it, under that name, it must have been compulsory—so far indeed as the law had any power to compel.

It is not, indeed, quite certain, whether in the first instance Guilds of this kind were asso. to one of which every free man was compelled to belong, or were merely subsidiary to the great family bond, and applied only to those whom no family owned. There would, however, have been great practical difficulties in bringing the kinless together; and it is more prob. that the Guild, in this sense, was an asso. which the law directed every one of a certain rank to join, either in his own person or by his representative—the head of the family. This it certainly was eventually, when it appeared as the tything, in which all freemen below a certain rank, whether in town or country, were compelled to be numbered.

Female Members.—It has not heretofore been very generally recognized that women were very usually admitted to membership in the early Gilds: yet such was unquestionably the fact—and herein is another striking resemblance to modern Friendly Sos. Scarcely 5 out of the 500 Gilds found to be in existence in the 14th century in this country excluded women. Women joined in the foundation of Gilds; and single women as well as wives belonged to them. Even where the affairs of the Gild were managed by a company of priests, women were admitted as lay members; and they had many of the same duties and claims upon the Gild as men. The Gild of the Holy Cross at Birmingham had a common midwife ("the commen midewyffe") for the benefit of its married sistren.

The practice of admitting Females to the Gild feasts also prevailed during the middle ages, although we cannot determine if it was very general. Herbert, in his *Hist. of the Twelve Great Livery Cos. of London* (pub. 1837), informs us that not only did widows,

wives, and single women, who were members, join in these festivities, but in one Co. at least—and there is no especial reason to regard it as an exception—the privilege was extended even further. Thus by the Ordinances of the *Grocers Co.*, under date 1348, the “bretherne” could introduce their fair acquaintances on paying for their admission. “There is (he continues) an amusing simplicity in the Ordinances alluded to of the *Grocers* on these points: they enjoin that every one of the fraternity from thenceforward, having a wife or companion (*compagnon*), shall come to the feast, and bring with him a damsel, if he pleases (*ameyne avec luy une demoiselle si luy plect*); if they cannot come from the reasons hereafter named, that is to say, sick, or big with child, and near delivery (*malade, ou grosse d’ensant et pres sa delivrance*), they are then and not otherwise to be excused.” Every man, it is added, shall pay for his wife, 20*d.*, or man and wife, 5*s.*: that is to say, 20*d.* for the man, 20*d.* for his companion, and 20*d.* for the priest. Women not members, but who should afterwards marry members, were to be entered and looked upon “as of the fraternite for ever, and be assisted and made one of us.” If left a widow, such female member was to come to the annual dinner, and to pay, if able, 40*d.*; but in case she married again to one who was not of the fraternity, she was to be expelled, and so to remain during such marriage, “nor none of us ought to meddle or interfere in anything with her on account of the fraternity so long as she remained married.” In the *Brewers Co.* the fees for the feast were less, viz. 12*d.* for the brothers and 8*d.* for their wives.—Vol. ii. pp. 83-4.

Contributions of Members.—The contributions or payments made by the members varied with the nature and circumstances of the Gilds themselves; and they are as a consequence of infinite variety. The payment on admission was sometimes a fixed amount; sometimes “as the masters and he may accord,” and in different forms; frequently in money, as in the Gild of St. Benedict, Lincoln, 6*s.* 8*d.*; or as in St. George’s Gild, Norwich, 6*s.* 8*d.* for a man, 3*s.* 4*d.* for a woman; very often in kind, as where every incomer was to pay 2*lbs.* of wax, and 1 bushel of barley.

Besides this entrance fee, there were the house fees, or “rights of the house,” which were payments to the officers, such as “to the Alderman 1*d.*, to the Dean 1*d.*, and to the wax ½*d.*” There were payments “to the light”; for the feast; on the death of a brother or sister; on occasions when help was needed for a poor brother, or one in distress; or others; all which were part of the usual regulations.

Equally varied too were the regulations relating to time of payment. In one Gild so much a year would be agreed upon; in another so much a quarter; as the contributions from each to the common fund, sometimes called “the common box,” or “common pyx” or “chest.” In that of Corpus Christi, Hull, 5 farthings was to be paid weekly by every member.

Feasts and Festivals.—Every Gild had its appointed day or days of meeting once or more frequently every year—sometimes apparently quarterly—when all the brethren and sistren, summoned by the Dean or other officer, met together to transact their common affairs. The business of the day probably commenced by assembling at the hour of “prime” for prayers. “On this day it was that the brethren and sistren, clad in their hoods or their livery, assembled at the church, bearing the lights which formed a universal part of the religious rites, there to make the prayers enjoined by their rules, and to consecrate by the acts of faith that brotherly love and peace which they were sworn to cherish.”—*Vide English Gilds*, p. xxxiii.

The succeeding business of the day was the “morning-speech” (*morgen-spæc* of the Anglo-Saxons) referred to in the rules of some of the Gilds as the “dayes of spekyngges tokedere for here comune profyte.” It was here then that the practical business of the day was transacted, such as presenting accounts, reading over the ordinances, amending the rules, admitting new members, selecting officers, and dispensing charities, etc. It was in some of the Gilds termed the “general day.”

Next (if this had not preceded either of the ceremonies already named) a procession with band and banners was probably formed, bearing emblems of the craft of the particular Gild—the sisters, where they joined, carrying flowers: the whole producing a spectacle which operated as an inducement to many to join, and which reflected the wealth and importance of the organization. The Lord Mayor’s annual procession unquestionably originated in this manner—the whole of the City Gilds being entitled to representation at it. In earlier times the procession or “riding” of the Gild of St. George at Norwich, was a very good spectacle. While those of Coventry, Leicester, Preston, and Worcester, were not far inferior. In York the “Gild of the Lord’s Prayer” was expressly set up for the purpose of providing that “a play setting forth the goodness of the Lord’s Prayer” should be kept up and played periodically in the streets of that city.

Then in due succession came the feast, which was in truth the great feature of the day. The brethren [sisters usually did not—but see above] met in good fellowship round the social board, either at the Gild-house, or some other convenient place. In some cases guests were invited, a custom much more largely practised in modern times; at others, prayers were again offered up; and the peaceable and good behaviour of all was constantly enjoined. Occasionally the ordinances of the Gild were read out during the

feast. In some of the Religious Gilds we suspect the performance of a Miracle Play probably either took the place of the feast, or followed upon a less pretentious meal.

Mr. Furnivall has pointed out that the modern representative of nearly all the foregoing is still to be found in the annual festival of the Village Benefit Clubs. There is the march of the members to morning service at the parish church, before the midday dinner, the cricket match and games of the afternoon, and the evening dance.

Regarding the origin and early significance of these ann. processions, Dr. Brentano offers the following interesting explanation :

In all Roman Catholic countries the consecrated host is carried every year on the day of Corpus Christi, by the priest of highest rank in the place, in solemn procession, in the towns through the streets, and in the country over the fields. This is one of the greatest feasts of the Roman Catholic Church. To heighten its solemnity, all the pomp which the Church can command is brought together. With this intention the clergy of York founded a special Gild [Gild of Corpus Christi], of which the sole object was to provide the ceremonies and pomp of this festival. As the solemnities of one of the greatest ecclesiastical feasts were in question, it can easily be understood that those who were at the head of the Gild were priests. Moreover, the reason why the many crafts of York joined so generally in this procession, was neither "the love of show and pageant which it gratified," nor was it "the departure from the narrow spirit of the original ordinances," but simply *that the taking part in this procession was considered as a profession of faith in transubstantiation*. I have myself seen at Munich, the King, the Ministers, the whole body of Clergy, the University, all the Trades with their banners and emblems, all the Religious Fraternities, the Schools, and even the Army taking part in a like procession ; and that at Vienna is renowned for still greater pomp.

In Harrison's *Description of England*, A.D. 1577-87 (Holinshed, vol. i. p. 138, col. 2), is given a very brief account of the numbers of holy and festival days before and after the Reformation respectively :

Our holie and festiual daies are verie well reduced also vnto a lesse number ; for whereas we had vnder the Pope four score and fiftene, called festiual, and thirte *Profesti*, beside the sundiaes, they are all brought vnto seauen and twentie : and with them the superfluous numbers of idle wakes, *Guilds*, *Fraternities*, church-ales, helpe-ales, and soule-ales, called also dirge-ales, with the heathenish rioting at bride-ales, are well diminished and laid aside.

For further on Wakes and Church-ales, see Stubbes's *Anatomie of Abuses* (1583), see Reprint of 5th ed. 1836, p. 173.

Promotion of Gilds.—The early Gilds bear on the face of them such general appearances of spontaneous origination that, but for undoubted evidence, we should not venture to suppose any of them could owe their origin to promoters, seeking their own advantage. Yet this is clearly so in several cases, and presumably so in others. In the Gild of the Annunciation, founded at Cambridge in 1379, John Cornwall was declared by common consent to be free from payment of the yearly contribution "on account of the trouble he took in founding the Gild." And in the Gild of the Holy Cross, existing at Bishop's Lynn in 1388, John Clerke was also freed from all contributions. In many Gilds the office holders were freed from the payment of the ordinary contributions, while holding office only.

Moral Influence.—The moral influence of the Gilds in favour of law and order has been well pointed out by Miss Lucy Toulmin Smith, in the introduction to her father's great work :

... When we consider the fact of this multitude of independent bodies of plain men and women, scattered all over the land, each bound by Ordinances for the attainment of better demeanour and morality among themselves, who shall say what England does not owe at the present day to their efforts, and what might not be still further done by reviving their example now? Every one who wished to be admitted into a Gild was required to be of good reputation and bearing; if a brother became a brawler or a thief, or committed other offences, he was punished or turned out of the Gild, ... One brother was not allowed to belie or wrong another. ... In the way of arbitration, it was made a part of the duty of either the brethren and sistren themselves, or of their officers, that if any dispute should arise between one brother and another, they should do all they could to "bring them at one," to settle the quarrel; and not until this was tried might the disputants go to law. ...

The Gilds were sometimes employed as a means of carrying out important trusts, with reversionary benefits to themselves.

Special Gilds.—Gilds were sometimes founded in a spirit of thankfulness for special mercies, of which an instance is to be found in that estab. at Burgh (? Norfolk) before the 14th century, and which was so estab. in fulfilment of a vow made by certain Pilgrims while tempest-tossed at sea. "One thing comes out clearly, that though a Gild might be founded to carry out some special object, as often was the case,—as for the support of a church, the maintenance of an altar, or a play, the ringing of bells, the keeping up of Records, or of minstrelsy, or for the encouragement of crafts and trade,—the same general features and the same ideas were common to all; but that these became modified or added to, according to the special need of the Gild."—Intro. to *English Gilds*, p. xli.

Knights' Templars.—It has been asserted that this famous historical Order took its origin in the form of a Gild; this is not altogether improbable : as its orig. object (in the 12th century) was the protection of Pilgrims on the roads in Palestine. It was only later that the Order took for its chief object the protection of the Holy Sepulchre as against the Saracens. The rules of the Order, as estab. by King Baldwin II., involved vows of chastity, obedience, and poverty. The classes of the Order were Knights, Esquires, Servitors, and Chaplains [we quote them in order of our authority]. The universal badge of the Order was a girdle of linen thread. The vow of poverty does not seem to have been strictly enforced, for in the 13th century the Order was in possession of no less

than 9000 estates, lordships, etc., mostly in France. The Templars, with the rest of the Christians, were driven from Palestine by the Saracens, and finally settled in Cyprus; where their imperious bearing brought them in conflict not only with Pope Clement V., but also with Philip the Fair of France; and these two combined powers caused their dispersion. Those who settled in England appear to have relinquished arms, and to have followed the profession of the Law. The *Hospitallers* were prob. a branch of the same orig. Order.

Freemasons.—This Order is sometimes traced back to the Knights Templars, and beyond; it being indeed asserted by some writers that the mysteries of Freemasonry are to be traced from those of the Priests of Eleusis, as these again were derived from ancient Egypt. There has been handed down some account of an ancient Order of Architects and Engineers under the name of the Dionysiacs of Ionia; they monopolized the building of temples, stadia, and theatres, and recognized each other by signs and tokens. A similar Order, or Fraternity of architects and builders, in the middle ages extended over all Catholic countries, and were especially patronized by the See of Rome. It is to this craft that we owe the magnificent Gothic edifices dedicated to Religion, which contrast so strangely with the barbarous efforts of those ages in most other departments of Art. It is difficult to reconcile this supposed original connexion between the Craft and the Church: because in later times the Masons were excommunicated on the alleged ground of irreligion. The "Chapters and Congregations" of the Masons seem to confirm their early association with the Church. These Masons wore a livery; that of those connected with Christ Church, Canterbury, in the early part of the 15th century, was of murrey cloth—a sort of red or mulberry colour. [See *Carpenters Gild at Norwich*, 1388.]

Mr. Henry Charles Coote, F.S.A., in his paper on Gilds given in vol. iv. of the *Trans. of the London and Middlesex Archaeological So.* (1871), speaking in a foot-note (p. 2) of the "Lodges" of Freemasons, says:

... Originally they were, like other Gilds, distinct communities, neither affiliated to nor dependent upon any other asso. of the same craft. At the beginning of the present century (perhaps at the end of the last) through extraneous influences, a hierarchial system was introduced into Freemasonry, and all the independent Lodges (or Gilds) submitted themselves to one Lodge in London, as their chief, at the same time surrendering to the latter their Royal Charters (or licenses) and their Ordinances. These were prob. all destroyed by the central authority at the time of the surrender. Copies of the charters, however, will possibly be found at the Record Office amongst the returns made under the 12 Rich. II. [1388], and Mr. Tyssen's discovery shows it to be more than prob. that the Rules and Ordin. are regis. in some of the Ecclesiastical Courts, where they will be discovered whenever a search shall be made for them.

Odd Fellows.—These claim to be descended directly from the Freemasons; and they certainly seem, by their conviviality and other observances, to inherit something of the old Gild spirit. [See art. FRIENDLY SOS. sub-sect. *Secret Sos.*, Vol. IV. p. 395; sub-heading *Odd Fellows*, p. 399.]

Chronological Review.—We now propose to take a chronological review of the progress of Gilds in Gt. Britain; and in this manner we trust we may make our survey of these important asso. reasonably complete. There will be a certain amount of overlapping of periods incident to the arrangement of time adopted by the different authorities quoted.

Roman Period [B.C. 55 to A.D. 449].—Pike, in his *History of Crime*—a work which we regard as of high authenticity—gives the following account of the Gilds in Gt. Britain during the Roman occupation:

In the towns there were bodies known as Colleges, or, as we should now say, Cos. or Guilds, which were under the supervision of the Imperial Gov., and which had evidently attained a high position before the Romans quitted Britain. Known in the earliest days of Roman hist., they survived all changes of political constitution, and seem even to have acquired a political power of their own. The Imperial laws contain numerous provisions for determining the relation of the Gilds to those local Courts [Roman Colonial Courts] which have already been described. It became a common practice to plead membership of a Gild as a ground of exemption from membership of the Court. The validity of this plea was not admitted, and the Gilds-men, if duly qualified, were compelled to serve in the Court, and, perhaps, even to abandon their Gild. But there can be no better proof of the progress made by corporations of various kinds than the fact that their members had the qualification for a seat in an essentially aristocratic Court, and were yet by no means anxious to occupy it.

As in the case of the local Courts, so in the case of the Roman Gilds, there is sufficient evidence to show that what happened in other provinces happened also in Britain. In various places inscriptions have been found which prove the existence in Britain of those Gilds which are mentioned in the Theodosian Code, some of which were Commercial and others Religious. Nor, indeed, can there be any reasonable doubt that the Roman civilization flourished at one time in all its splendour, not, perhaps, in the remote west, but from the western hills to the German Ocean, and from Hadrian's Wall to the Channel.

We think Mr. Coote [already quoted, *Special Gilds* (Freemasons)] has at once and for ever set at rest the question of the origin of Gilds in Gt. Britain, as between the Romans and the Anglo-Saxons, in the following manner:

The [Roman] Colleges remained in this country throughout the Imperial rule, and with the provincial inhabitants survived the Anglo-Saxon occupation of Britain. They were subsequently, through that marvellous imitativeness which distinguished the German in the early stages of his national life, adopted by him also.

That this was the true origin of the English Gild it will not be very difficult to demonstrate. Under the Empire, and before it, private colleges (*collegia privata*) were Corporations composed of men voluntarily bound together for a common lawful purpose. They were estab. by legal Act, either a *senatus consultum*, or a decree of the Emperor. The numbers of the *sodales* could not be less than

three; it might be any larger number, unless it was restricted by the authority which gave the college existence. In its constitution the college was divided into *decuria* and *centuria*—bodies of ten and a hundred men. It was presided over by a *magister* and by *decuriones*—a president and a senate. It had a *quaestor* and *arcarius*—a treasurer and sub-treasurer. It was a corporation, and could hold property as such. It had a common cult and common sacrifices at stated times. It had its priests and temple. It had its *lares* and its *genii*. It had a *curia* (or meeting-house), where the *ordo collegium* (its senators) met to consult and determine. At the same *curia* also the whole sodality met at their general meetings and to feast. There was a common *arca* (or chest) to contain their revenues, their contributions, and their fines. Each college had its archives and its banners. It had *jus sodalitati*, or full power over its members. To each candidate on his admission was administered an oath peculiar to the college. The *sodales* supported their poor brethren. They imposed *tributa* or contributions to meet their current and extraordinary expenses. They buried publicly deceased brethren, all the survivors attending the rite. The common sepulchre or *columbarium* received the brethren. Each college celebrated its natal day, a day called *cara cognationis*, and two other days called severally *dies violarum* and *dies rosa*. . . . Each college could hold property.

In reference to some of the later festive days named, Mr. Coote points out that the natal day and the day *cara cognationis* were obviously appointed to carry out the general purposes of the college; but for the *dies violarum* and *dies rosa* there were others purposed. "On these two days of charming nomenclature the *sodales* met at the sepulchres of their departed brethren to commemorate their loss, and to deck their tombs with violets and roses, an offering (if not a sacrifice) pleasing to the spirit of the *manes*." He adds:

Of Trade Colleges epigraphy has preserved an infinity of examples; but, as I have intimated, the private colleges were not of craftsmen only; any persons could combine and form a college, if the common purposes of it were lawful. Men could combine themselves into a religious college if the religion was tolerated by the State; and De Rossi has shown that colleges *funerum causâ*, or for the purpose of holding land wherein to bury the *sodales*, were rife in Rome, both before and after the rise of Christianity. In fact, it was the glorious destiny of this order of colleges, as the creators of the Catacombs, to preserve our nascent and struggling faith. Under cover of a Roman burial club the scheme of man's redemption was carried out.

The wonderful internal identity of these Roman Colleges with the later Gilds will be more fully seen in the detailed examination of the Gild Ordinances which we propose to make under date 1388.

We do not think that it can any longer be contended that the Gilds in England were of Anglo-Saxon origin. The true theory must be that the Saxons found the Gilds here and shaped them to conformity with their own institutions; and afterwards introduced them into their own country.

Anglo-Saxon Period [A.D. 827-1013].—It is always understood that the Gilds of England were in their greatest excellence during the Anglo-Saxon and late Saxon periods of our hist.—the former ranging from A.D. 827 to 1013; the latter from A.D. 1041 to 1066—the Danish period (1013-41) intervening.

There was as early as 860-6 a Gild of Cnihts in London, and there is known to have been a similar (or more probably the same) Gild, in existence after the Norman Conquest, and so on for several centuries later. There were indeed several degrees of Cnihts—an *Eorl* being a King's Cniht (as he had taken homage to the King); but the *Eorls* themselves had knights; and hence there may have been several degrees of Cnihten Gilds. The Cnihten Gild of London was an institution of importance for many centuries, and had lands. May not the Order of Knights-Templars have sprung from this original Cnihten Gild, in the days of the Crusaders?

We have more exact knowledge of the regulations of three Gilds of this period—all dating in the 10th century—viz. one in London, one in Cambridge, and one in Exeter. We will review them in the order here stated.

London.—This Gild, which is believed to be the earlier of the three, is very remarkable as being very much in the nature of an Ins. Asso. Mr. Thorpe (*Diplomatarium Anglicum*, pref. p. xvii.) refers to its Ordinances as "a Deed of Incorpor. by the Prelates and Reeves of the Londoners for the Repression of Theft and Maintenance of the Public Peace." The Ordinances of themselves state that they contain the constitution of the Gild, which is composed of Thanes and Ceorls [gentlemen and yeomen] under the perpetual presidency of the Bishop and Port-Gerefa of London. It also declares that the regulations are made by common consent of the bretheren, in add. to and furtherance of the stringent provisions against robbery, contained in the Acts of the Witenagemot therein specified; and for the better comprehension of the object of the Gild, it invokes into the rules the enactments themselves. The object of the Gild was the recovery of stolen stock and slaves, wherever that recovery was practicable; and where that could not be effected, then the indemnification of the loser by *pro rata* contributions of the bretheren. Thus it was really an indemnification by way of mut. ins. The chief regulations for the working of the Gild were as follows:

2. Each of the bretheren shall contribute yearly 4*d.* to the common behoof; the bretheren shall pay for the stolen property as soon as the contribution is made. They shall make the search for it in common. Every man who has property to the value of 3*0d.* shall contribute his 1*d.* The poor widow, who has neither a friend who will contribute on her behalf, nor land of her own, is exempted.

3. The Gild shall be subdivided into bodies of 10 men, one of these 10 being its chief. Further, these bodies of men, or tithings, shall be united into a body of 100 men [for hynden], and over this last-mentioned body shall be appointed an officer, called a hynden

man, who shall direct the other ten, to the common benefit of the Gild. These 11 shall hold the money of the hynden, and will decide what they shall disburse when a payment must be made, and what they shall receive when there is anything to receive, and when money shall be payable to the bretheren at their common suit. The bretheren are to take notice that there must be forthcoming every contribution which has been ordained to the common behoof, at the rate of 30d., or an ox, so that all may be fulfilled which has been ordained, and which stands in the agreement of the bretheren.

4 and 5. These contain directions for commencing and prosecuting the searches after stolen stock.

6. Regulations for payment for stolen property. A horse shall be paid for at the maximum rate of *half a pound*, if it be so good. If it be inferior, it shall be paid according to its value. An ox shall be compensated for at a *mancus*, a cow at 20d., a hog at 10d., and a sheep at 1s. The money required beyond what shall be in hand shall be raised by a call amongst the bretheren.

A theowman (*i.e.* a slave) shall be compensated for at the maximum rate of half a pound, or according to his value, the money to be raised by a call, as before mentioned. If he has *stolen himself* [*i.e.* has run away from his owner], he shall be stoned, and every brother who has a slave shall contribute either 1d. or a halfpenny, according to the number of the brotherhood. If the slave shall make good his escape, he shall be compensated for according to his value.

7. The bretheren shall avenge each other's wrongs, and shall be as in one friendship so in one enmity. The brother that shall openly kill a thief shall have a reward of 12s. out of the common fund. The owner of property insured shall continue the search for it until he be paid, and he shall be recouped the expenses of the search out of the common fund.

8. The hyndenmen and those who preside over the tithings shall meet together once in every month, and ascertain what business has been done in the Gild. These 11 men shall also have their dinner together *à discretion*, and shall give away the remains of the dinner, for the love of God. Every brother shall help another, as it is ordained and confirmed by oath. If a sworn brother of the Gild die, each brother shall give a loaf for his soul, and shall sing or procure to be sung 50 psalms within 30 days. Every brother who has lost stock, and intends to claim the amount of his ins., shall notify his loss to his neighbours within 3 days. But the search shall be proceeded with notwithstanding, *for the Gild will only pay for stolen, not unguarded property; and many men make fraudulent claims!*

In the preceding we have followed the reading of Mr. Henry Charles Coote, F.S.A., a competent authority (vide *Trans. of the London and Middlesex Archaeological So.* vol. iv. pp. 10-12), who adds thereon:

The regulations and provisions of this Gild command our unqualified respect. They are irrefutable evidence of a high state of civilization. We have in them a scheme of mut. assu., with all the appliances for carrying it out, combined with thorough comprehension of the true principles upon which such schemes are founded, and can alone be supported. For the Gild not only satisfies itself that the claim is honest, but repudiates payment of it whenever the claimant has shown himself to have been contributory by his negligence to the loss of which he affects to complain. And, lastly, the Gild, in order to secure the So. against claims of unlimited and overwhelming amount, establishes a maximum rate of compensation.

This must be regarded as an especial adaptation of the Frith-Gild.

Cambridge.—Next in antiquity is supposed to rank the Gild of the Thanes of Cambridge. We here fall back upon the learning of Dr. Hickes, who, in his *Thesaurus* (1. Dissert. Epist. 20), gives what he designates the full text of the Ordinances of this Asso., which was of the Social Order of Gilds. "In this writing is contained an account of an Inst. estab. by the members of the So. (Gild) of noblemen in *Cambridge*:"

It is ordained, that all the members shall swear by the Holy Reliques, that they will be faithful to each of their fellow members, as well in religious as in worldly matters; and that (in all disputes) they will always take part with him that has justice on his side.

When any member shall die, he shall be carried by the whole So. to whatever place of interment he shall have chosen; and whoever shall not come to assist in bearing him, shall forfeit a sextarium of honey; the So. making up the rest of the expense, and furnishing each his quota towards the funeral entertainment; as also two pence for charitable purposes: out of which, as much as is meet and convenient is to be bestowed upon the Church of St. Etheldred.

When any member shall stand in need of assistance from his fellow members, notice thereof shall be given to the Reeve or Warden, who dwells nearest to that member, unless that member be his immediate neighbour; and the Warden if he neglect giving relief shall forfeit one pound. In like manner if the President of the So. shall neglect coming to his assistance he shall forfeit one pound, unless he be detained either by the bus. of his lord, or by sickness.

If any one shall take away the life of a member, his reparatory fine shall not exceed eight pounds; but if he shall obstinately refuse to make reparation, then he shall be prosecuted by and at the expense of the whole So.; and if any individual undertake the prosecution, then each of the rest shall bear an equal share of the expenses. If, however, a member who is poor kill any one, and compensation must be made, then if the deceased was worth 1200 shillings, each member of the So. shall contribute half a mark; but if the deceased was a hind, each member shall contribute two *ora*; if a Welshman, only one. If any member shall take away the life of another member, he shall make reparation to the relations of the deceased; and, besides, make atonement for his fellow member by a fine of eight pounds, or lose his right of fellowship in the So. And if any member, excepting only in the presence of the King, or of a Bishop, or Ealderman, shall eat or drink with him that hath taken away the life of his fellow member, he shall forfeit one pound, unless he can prove by the evidence of two witnesses-upon-oath that he did not know the person.

If any member shall treat another member in an abusive manner, or call him names, he shall forfeit a sextarium of honey; and if he shall be abusive to any other person that is not a member, he shall also forfeit a sextarium of honey, unless he can clear himself upon the evidence of two witnesses—upon oath.

If any knight (*i.e.* servant at arms) shall draw his sword, his lord shall forfeit one pound, which he may by every possible means recover from the offender, and which the whole So. shall assist him in the recovery of. And if one knight shall wound another, the wounded person's lord, in concert with the whole So., shall avenge the wrong, and—prosecute the offender to death.

A knight, for way-laying any man, shall forfeit a sextarium of honey; and if he set any trap or snare for him, the penalty shall be the same.

If any member, being at a distance from home, shall die or fall sick, his fellow members shall send to fetch him, and convey him, either alive or dead, to whatever place he may have wished, or be liable to the stated penalty. But if any member shall die at home, every member who shall not go to fetch his corpse, and every member who shall absent himself from his obsequies, shall forfeit a sextarium of honey.

The "pound" mentioned in the preceding was a pound weight of silver, now coined into £2 16s. 3d. stg. A "mark" was two-thirds of the Saxon pound, or about £1 17s. 9d. of present money. The "ora" was the eighth part of a mark, or about 4s. 8d. of present money. The Saxon "penny" was the twentieth part of an ora.

The "honey" was prob. used for metheglin—the customary drink at the feasts.

The "prosecutions" were very prob. carried on by *force and arms*.

Exeter.—The Gild at this date existing in this City was of the Religious type. We again fall back upon Dr. Hickee (*Thesaurus*, i. Dissert. Epist. 20). He gives us in extenso what purports to be the record of regulations made at a meeting "held in the City of *Exeter*, for the sake of God and our own souls, that we may make such ordinances as tend to our welfare and security, as well in this life, as in that future state which we wish to enjoy in the presence of God, our Judge. Being, therefore, here assembled together, we have decreed :"

That three stated meetings shall be held every year: the first on the Festival of St. Michael the Archangel; the second on the Festival of St. Mary, next following the Winter Solstice; and the third on the Festival of All Saints, which is celebrated after Easter.

That at each meeting every member shall contribute two sextaria of barley-meal, and every knight one, together with his quota of honey.

That at each of these meetings, a priest shall sing two masses; the one for living, and the other for departed members. Every lay brother shall likewise sing two psalms; the one for living, and the other for departed members. Every one shall, moreover, in his turn procure 6 masses and 6 psalms to be sung at his own proper expense.

That when any member is about to go abroad, each of his fellow members shall contribute fivepence; and if any member's house shall have been burned, one penny.

That if any one shall neglect the stated times of meeting: for the first neglect he shall be at the expense of three masses; for the second, five; and if after being warned of the consequence, he shall absent himself a third time, he shall not be excused, unless he has been hindered either by sickness, or by the business of his lord.

That if any one should by chance neglect the stated time of meeting, his quota of regular contribution shall be doubled.

That if any member shall treat another member in an abusive manner, his reparatory fine shall be 30 pence.

And finally, we beseech every member for God's sake, to observe these things which are ordained in this So., in everything as we have ordained them. And may God help us to observe them.

The text of these two Gild Ordinances is given in more literal form in Kemble's *Saxons in England*, Appendix D. vol. i.

Dr. Brentano points out that an already far-advanced development of the Gilds was shown by the *Judicia Civitatis Lundoniae*, the Statutes of the London Gilds, which were reduced to writing in the time of King Athelstan (A.D. 925–41). From these the Gilds in and about London appear to have united into one Gild, and to have framed common regulations for the better maintenance of peace, for the suppression of violence,—especially of theft, and the aggressions of the powerful families,—as well as for carrying out rigidly the ordinances enacted by the King for that purpose. Particularly comprehensive were the arrangements for prosecution against theft: *one might call these Gilds Assurance Cos. against theft*. Not only were the members obliged to pursue and track out the thief, even in other districts, but the injured person also received compensation for his loss from the common fund. The agreements which had been come to, and the obligation resulting therefrom, bound not only the members of the Gilds, but also all non-members living in the district in which the Gilds existed; and the non-members were for this purpose united into tithings under the lead of the Gild-brothers. Every month the members of the Gild assembled at a banquet, at which the common interests, the observance of the Ordinances enacted, and similar matters, were inquired into and discussed.—*English Gilds*, p. lxxv.

Green, in his *Short Hist. of the English People*, speaks disparagingly of the influence of the Trade-Gilds of this period, thus: "Town and country were alike crushed by heavy taxation, while industry was checked by a system of Trade-Gilds which confined each occupation to an hereditary caste." p. 5. (See 1272–1307.)

1030.—The next perfect record of a Gild Ordinance which we find authenticated is that of the Gild of Abbotsbury (Dorset), founded in the reign of Canute (the Dane) about this date by Orcy [Orcius], a friend and minister of the King. Its objects were Religion and Charity. We give the text as contained in Kemble's *Saxons in England*. (2nd ed. p. 511) as follows:

This writing witnesseth that Orcy hath granted the Gildhall at Abbotsbury and the site thereof to

the honour of God and St. Peter, and for a property to the Gild, both during his life, and after his life, for a long lasting commemoration of himself and his consort. Let him that would set it aside, answer it to God in the great day of Judgment!

Now these are the covenants which Orcy and the Gildsmen of Abbotsbury have ordained to the honour of God, the worship of St. Peter, and the hele of their own souls. Firstly: three days before St. Peter's mass, from each Gild-brother *one penny*—or one pennyworth of wax—look which the minister most needeth; and on the mass eve, from every two Gild-brothers one broad loaf, well sifted and well raised, towards our common alms; and five weeks before Peter's mass let each Gild-brother contribute one Gild-sester full of clean wheat, and let this be paid within two days, on forfeit of the entrance, which is three sesters of wheat. And let the wood be paid within three days after the corn contribution, from every full Gild-brother one load of wood, and from those who are not full brothers two; or let him pay one Gild-sester of corn. And let him that undertaketh a charge and performeth it not accordingly, be mulcted in the amount of his entrance; and there be no remission. And if one brother misgreet another within the Gild, in hostile temper, let him atone for it to all the fellowship with the amount of his entrance; and after that to him whom he misgreeted, as they two may arrange: and if he will not bend to compensation, let him lose our fellowship, and every other advantage of the Gild. And let him that introduceth more guests than he ought, without leave of the steward and the caterers, forfeit his entrance. And if any of our fellowship shall pass away from us, let each brother contribute a penny over the corpse for the soul's hele, or pay . . . [orig. record defaced] . . . brother: and if any one of us should be afflicted with sickness within sixty . . . [ditto] . . . we are to find fifteen men who shall fetch him, and if he be dead thirty, and they shall bring him to the place where he desired to go while he lived. And if he die in this present place, let the steward have warning to what place the corpse is to go; and let the steward warn the brethren, the greatest number that he can ride or send to, that they shall come thither and worthily accompany the corpse, and bear it to the minster, and earnestly pray there for the soul. *It is rightly ordained a Gildship if we do thus*, and well fitting it is both toward God and man: for we know not which of us shall first depart.

Now we have faith through God's assistance, that the aforesaid ordinance, if we rightly maintain it, shall be to the benefit of us all. Let us earnestly from the bottom of our hearts beseech Almighty God to have mercy upon us, and also his holy apostle St. Peter to make intercession for us, and take our way unto eternal rest, because for his sake we gathered this Gild together: he hath the power in heaven to admit into heaven whomso he will, and to exclude whomso he will not, even as Christ himself spake unto him in the Gospel: Peter, I give to thee the keys of heaven, and whatsoever thou wilt have bound on earth, the same shall be bound in heaven, and whatsoever thou wilt have unbound on earth, the same shall be unbound in heaven. Let us have hope and trust in him, that he will guide us here in this world, and after death be a help to our souls. May he bring us to eternal rest! Amen!

All this indicates a familiarity with Gild-practice in the past; and also indicates the manner in which many of the Religious Gilds of that period may have been founded.

11th Century.—It is believed by writers who have investigated the history of Gilds carefully, that these had prob. been transplanted from England to Denmark by King Canute about the middle of this century. They soon placed themselves under the special patronage of the three Royal Saints of the land—St. Canute the King, St. Canute the Duke, and St. Erich the King, and were called, after them, St. Canute's and St. Erich's Gilds. "From that time the Gov. got up relations with them, and favoured them as associations for the maintenance of law, security and order." Many superficial writers have supposed that because Gilds were found prevailing in Denmark and the North of Europe generally at a very early period, and because the Northmen were known to have overrun our country on various occasions about this date, that therefore we in England had derived our Gilds from the North of Europe through our Anglo-Saxon progenitors. The facts being almost conclusively shown to be the other way. The assertion of Dr. Brentano, that *England is the birthplace and cradle of the Gilds*, can no longer be maintained on any ground. See *Roman Period*.

Norman Period [1066-1154].—After the Conquest Gilds continued to be estab. for the express promotion of religion, charity, and trade; and we have it on the authority of Dugdale, that it is from these fraternities that the various companies and city corporations in Gt. Britain have been derived. Much concerning these has already been said under *Town or Corp. Gilds*.

In the Domesday Book mention is made of a Gild of Clerks at *Canterbury*, possessed of considerable house property. Indeed it was only the possession of houses and land that could bring them within the purview of that Survey. Unfortunately the City of London was not embraced in that great record, or we should have had the means of knowing more concerning the Gild-Merchants, and other Gilds of the city. Soon after the Norman Conquest we know that there were numbers of Gilds in existence in London, and that their constitutions were based on the Saxon model.

1071-1127.—Green speaks very favourably of the influence of the Gilds during this period, which he terms the "English revival":

In the silent growth and elevation of the English people the boroughs led the way; unnoticed and despised by prelate and noble, they had alone preserved the full tradition of Teutonic liberty. The rights of self-government, of free speech in free meeting, of equal justice by one's equals, were brought safe across the ages of Norman tyranny by the traders and shopkeepers of the towns. In the quiet, quaintly named streets, in Town-mead and Market-place, in the Lord's mill beside the stream, in the bell that swung out its summons to the crowded borough-mote, in the jealousies of craftsmen and *Guilds*, lay the real life of Englishmen, the life of their home and trade, their ceaseless sober struggle with oppression, their steady, unwearied battle for self-government. It is difficult to trace the steps by which borough after borough won its freedom. The bulk of them were situate in the Royal demesne, and like other tenants, their customary rents were collected and justice administered by a Royal officer. *Amongst our towns London stood chief, and charters which Henry [I.] granted it became the model of the rest.* The King yielded the citizens the right of justice; every townsman could claim to be tried by his fellow-townsmen in the town courts or hustings, whose sessions took place every week. They were subject only to the old English custom of trial by oath, and exempt

from trial by battle, which the Normans had introduced. *Their trade was protected from toll or exaction over the length and breadth of the land.* The King, however, still nominated, in London as elsewhere, the Portreeve or magistrate of the town, nor were citizens as yet united together in a commune or corporation; but an imperfect civic organization existed in the "wards" or quarters of the town, each governed by its own Alderman, and in the "*Guilds*" or voluntary associations of merchants or traders, which insured order and mutual protection for their members. . . . p. 89.

This influence of the Guilds in the direction of independence and order became a growing one. Many Trade-Gilds were founded during this period.—*Green*, p. 93.

Hallam, in his *Middle Ages* (vol. ii. p. 156-7), gives the following view of the transition of the Gilds at this period :

In the Saxon period we find voluntary asso., sometimes religious, sometimes secular; in some cases for mutual defence against injury, in others for mutual relief in poverty. These were called Gilds, from the Saxon verb *gildan*, to pay or contribute; and exhibited the natural, if not the legal, character of corporations. At the time of the Conquest, as has been mentioned above, such voluntary incorporations of the burgesses possessed in some towns either landed property of their own, or rights of superiority over that of others. An internal elective government seems to have been required for the administration of a common revenue, and of other bus. incident to their asso. They became more numerous, and more peculiarly commercial after that era, as well from the increase of trade, as through imitation of similar fraternities existing in many towns of France. The spirit of monopoly gave strength to those inst., *each class of traders formed itself into a body, in order to exclude competition.* Thus were estab. the Cos. in corporate towns: that of the *weavers* in Lond. being perhaps the earliest; and these were successively consolidated and sanctioned by charters from the Crown. In towns not large enough to admit of distinct Cos., one Merchant Gild comprehended the traders in general, or the chief of them; and this from the reign of Hen. II. downwards became the subject of incorporating charters. The management of their internal concerns, previously to any incorporation, fell naturally enough into a sort of oligarchy, which the tenor of the charter generally preserved. Though the immunities might be very extensive, the powers were more or less restrained to a small number. Except in a few places, the right of choosing magistrates was first given by King John; and certainly must rather be ascribed to his poverty, than to any enlarged policy, of which he was utterly incapable.

1179-80.—About this date there were founded in London several Bridge-Gilds (*Gilda de Ponte*). It is most probable that these Gilds were composed of the Masons engaged in the construction of the new stone bridge then recently begun; and they appear to have been located in the neighbourhood of the bridge. Some question afterwards arose as to these being formed without lawful authority; and they were fined in various penalties. It may have been that the workmen composing these were not free of the City of London, and hence they were fined; or that they were composed of foreign workmen. Madox, in his *Hist. of the Exchequer* (chap. xiv. sect. xv. p. 390), enumerates four of such Gilds.

1266.—In *Florence* we see very distinctly the operation of Trade-Gilds (*Arti*) in the functions of government. From at least early in this century,—prob. from the time of the city becoming an Independent Republic, about 1198,—it appears to have been the basis of Florentine polity to divide the citizens exercising commerce into their several Cos. or *Arts*, i.e. Gilds. These were at first 12, 7 called the greater arts, and 5 lesser; but the latter were gradually increased to 14. The 7 greater arts were those of lawyers and notaries; of dealers in foreign cloth, called sometimes Calimala; of bankers or money-changers; of woollen-drapers; of physicians and druggists; of dealers in silk; and of furriers. The inferior arts were those of retailers of cloth, butchers, smiths, shoemakers, and builders. This division of the traders into classes or Gilds, which had prob. been optional before, was this year (1266) made a part of the constitutional government of the city. Each of the 7 greater arts had now a council of its own; a chief magistrate or consul, who administered justice in civil causes to all members of his Co.; and a banneret (gonfaloniere) or military officer, to whose standard they repaired, when any attempt was made to disturb the peace of the city. See *Hallam's Middle Ages*, chap. iii. p. 2. In 1297 Dante became a member of the Co. of Physicians and Apothecaries in this city (the *sesta* of the *arti maggiori*) to enable him under the then laws to take office under the Gov.

1272-1307.—Edw. I. adopted the policy of building up the power of the towns, in view of checking the lawless tendencies of the Barons. He greatly, and purposely, encouraged the formation of "Trade-Gilds." *Green* gives us the following picture of town life as it was then commencing to be; and out of this the growth of Frith and other Gilds:

. . . . The bell which swung out from the town tower gathered the burgesses to a common meeting, where they could exercise rights of free speech and free deliberation on their own affairs. Their *Merchant-Gild*, over its ale-feast, regulated trade, distributed the sums due from the town among the different burgesses, looked to the due repair of gate and wall, and acted in fact pretty much the same part as a Town Council of to-day. Not only were all these rights secured by custom from the first, but they were constantly widening as time went on. Whenever we get a glimpse of the inner history of an English town, we find the same peaceful revolution in progress, services disappearing through disuse or omission, while privileges and immunities were being purchased in hard cash. The Lord of the town, whether he were King, Baron, or Abbot, was commonly thriftless or poor, and the capture of a noble, or the campaign of a sovereign, or the building of some new minster by a prior, brought about an appeal to the thrifty burghers, who were ready to fill again their master's treasury at the price of a strip of parchment which gave them freedom of trade, of justice, and of government. . . . For the most part the liberties of our towns were bought in this way, by sheer hard bargaining. The earliest English charters, save that of London, date from the years when the Treasury of Henry I. was drained by his Norman wars. . . .

. . . . Land was from the first the test of freedom, and the possession of land was what constituted the townsman. . . . In England the "landless" had no civic, as he had no national existence; the town was simply an association of the landed proprietors within its bounds. . . . The constitution of the English town, however different its form may have afterwards become, was at the first

simply that of the people at large. We have before seen that among the German races society rested on the basis of the family, that it was the family who fought and settled side by side, and the kinsfolk who were bound together in the ties of mutual responsibility to each other and to the law. As society became more complex and less stationary, it necessarily outgrew these simple ties of blood, and in England this dissolution of the family bond seems to have taken place at the very time when Danish incursions and the growth of a feudal temper among the nobles rendered an isolated existence most perilous for the freeman. His only resource was to seek protection among his fellow-freemen, and to replace the older brotherhood of the kinsfolk by a voluntary association of his neighbours for the same purposes of order and self-defence. The tendency to unite in such "Frith-Gilds," or Peace-clubs, became general throughout Europe during the 9th and 10th centuries, but on the Continent it was roughly met and repressed. The successors of Charles the Great enacted penalties of scourging, nose-slitting, and banishment against voluntary unions, and even a league of the poor peasants of Gaul against the inroads of the Northmen was suppressed by the swords of the Frankish nobles. *In England the attitude of the Kings was utterly different.* The system of "Frank-pledge," or free engagement of neighbour for neighbour, was accepted after the Danish wars as the base of social order. Alfred recognized the common responsibility of the member of the "Frith-Gild" side by side with that of the kinsfolk; and Athelstan accepted "Frith-Gilds" as the constituent element of borough life in the Dooms of London.

He proceeds to point out that the Frith-Gild of the earlier English town was precisely similar to the Frith-Gilds which formed the basis of social order in the country at large; and he gives a terse but true outline of their operation: an oath of mutual fidelity among its members was substituted for the tie of blood, while the Gild-feast, held once a month in the common hall, replaced the gathering of the kinsfolk round their family hearth. But within this new family the aim of the Frith-Gild was to estab. a mutual responsibility as close as that of the old. "Let all share the same lot" ran its law: "if any misdo, let all bear it." Its member could look for aid from his Gild-brothers in atoning for any guilt incurred by mishap. He could call on them for assistance in case of violence or wrong; if falsely accused, they appeared in court as his compurgators; if poor, they supported, *and when dead they buried him.* On the other hand, he was responsible to them, as they were to the State, for order and obedience to the laws. A wrong of brother against brother was also a wrong against the general body of the Gild, and was punished by fine, or in the last resort by expulsion, which left the offender a lawless man and an outcast. The one difference between these Gilds in country and town was that, in the latter case, from their close neighbourhood, they tended inevitably to coalesce. Under Athelstan the London Gilds united into one for the purpose of carrying out more effectually their common aims; and at a later time the Gilds of Berwick did the same.

This process of the fusion of the Frith-Gilds—out of which originated the Corporate Gilds—was a long and difficult one: for the brotherhoods naturally differed much in social rank; and even after the union was effected, we see traces of the separate existence, to a certain extent, of some one or more of the wealthier or more aristocratic Gilds. "In London (continues Mr. Green) the Knighten-Gild, which seems to have stood at the head of its fellows, retained for a long time its separate property, while its Alderman—as the chief officer of each Gild was called—became the Alderman of the united Gild of the whole city. In Canterbury we find a similar Gild of Thanes, from which the chief officers of the town seem commonly to have been selected. *Imperfect, however, as the union might be, when once it was effected, the town passed from a mere collection of brotherhoods into a powerful and organized community, whose character was inevitably determined by the circumstances of its origin.* In their beginnings our boroughs seem to have been mainly gatherings of persons engaged in agricultural pursuits; the first Dooms of London provide especially for the recovery of cattle belonging to the citizens. But as the increasing security of the country invited the farmer to settle apart in his fields, and the growth of estate and trade told upon the towns themselves, the difference between town and country became more sharply defined. London, of course, took the lead in this new development of civic life."

We are further reminded that even in Athelstan's day every London merchant who had made three long voyages on his own account ranked as a Thane. The Shippers-Gild, or rather the "lithsmen" of this Gild, were of sufficient importance under Harthacnut to figure in the election of a king. At the period of the Norman Conquest the commercial tendency of the towns had become very general. The name at this last period given to the united brotherhood was no longer that of the "Town-Gild," but of the "Merchant-Gild."

The social change in the character of the townspeople necessarily produced important results in the character of their municipal institutions. In becoming a Merchant-Gild the body of citizens who formed the "town" enlarged their powers of civic legislation by applying them to the control of their internal trade. It became their special bus. to obtain from the Crown, or from their Lords, wider commercial privileges—rights of coinage, grants of fairs, and exemption from tolls; while within the town itself they framed regulations as to the sale and quality of goods, the control of markets, and the recovery of debts. A yet more important result sprang from the increase of pop. which the growth of wealth and industry brought with it. The mass of the new settlers, composed as they were of escaped serfs, of traders without landed holdings, of families who had lost their original lot in the borough, and generally, of the artisans and the poor, had no part in the actual life of the town. The right of trade and the regulations of trade, in common with all other forms of jurisdiction, lay wholly in the hands of the landed

burghers already described. By a natural process, too, their superiority in wealth produced a fresh division between the "burghers" of the Merchant-Gild and the unfranchised mass around them. The former gradually concentrated themselves on the greater operations of commerce, on trades which required a larger cap., while the meaner employments of general traffic were abandoned to their poorer neighbours. This advance is marked at the period of which we are now principally writing—although the survey naturally extends over earlier and later periods—by such severances as the cloth-merchant from the tailor, or the leather-merchant from the butcher; and this severance was all-important in its influence upon the constitution of our towns. The members of the trades thus abandoned by the wealthier burghers formed themselves into *Craft-Gilds*, "which soon rose into dangerous rivalry with the orig. Merchant-Gild of the town." A seven years apprenticeship formed the necessary prelude to full membership of any Trade-Gild. We learn from Green the following supplemental particulars regarding the Craft-Gilds:

Their regulations were of the minutest character; the quality and value of the work was rigidly prescribed, the hours of toil fixed "from daybreak to curfew," and strict provisions made against competition in labour. At each meeting of these Gilds their members gathered round the Craft-box, which contained the rules of the So., and stood with bared heads as it was opened. The Warden and a quorum of Gild-brothers formed a Court, which enforced the ordinances of the Gild, inspected all work done by its members, or confiscated unlawful tools or unworthy goods; and disobedience to their orders was punished by fines, or, in the last resort, by expulsion, which involved the loss of right to trade. A common fund was raised by contributions among the members, which not only provided for the trade objects of the Gild, but sufficed to found chantries and masses, and erect painted windows in the church of their patron saint. Even at the present day the arms of the Craft-Gild may often be seen blazoned in cathedrals side by side with those of prelates and of kings. But it was only by slow degrees that they rose to such eminence as this. The first steps in their existence were the most difficult: for to enable a Trade-Gild to carry out its objects with any success, it was necessary, first, that the whole body of craftsmen belonging to the trade should be compelled to belong to it; and secondly that a legal control over the trade itself should be secured to it. A Royal Charter was indispensable for these purposes, and over the grant of these charters took place the first struggle with the Merchant-Gild, which had till then solely exercised jurisdiction over trade within the boroughs. The Weavers, who were the first to secure Royal sanction in the reign of Hen. I., were still engaged in the contest for existence as late as the reign of John, when the citizens of London bought for a time the suppression of their Gild. Even under the House of Lancaster, Exeter was engaged in resisting the estab. of a Tailors Gild. From the 11th century, however, the spread of these Sos. went steadily on, and the control of trade passed from the Merchant-Gilds to the new Craft-Gilds. (p. 193.)

In this struggle other things were involved than those we have immediately in view: the contention of the "greater folk" against the "lesser folk," or of the "commune"—the general mass of the inhabitants—against the "prudhommes" or "wiser few," brought about, as it passed from the regulation of trade to the general government of the town, the great civic revolution of the 13th and 14th centuries. On the Continent of Europe, and especially along the Rhine, the struggle was as fierce as the supremacy of the old burghers had been complete. It reduced to all but serfage the craftsmen. In England the contest had been restrained by the general tenor of the law into a milder form. In London it lasted longer, and was more bitter than elsewhere. Nowhere had the territorial constitution struck root so deeply, and nowhere had the landed oligarchy risen to such a height of wealth and influence. The City was divided into Wards, each of which was governed by an Alderman drawn from the ruling class. The "Magnates" or "Barons" of the Merchant-Gild advised alone on all matters of civic Government, or trade regulations, and distributed or assessed at their will the revenues or burthens of the town. This led to much discontent; and indeed to open rupture, in which William of the Long-Beard, himself one of the governing body, was slain. One further passage completes this most instructive picture:

No further movement in fact took place until the outbreak of the Barons' Wars, but the City had all through the interval been seething with discontent. The unfranchised craftsmen, under pretext of preserving the peace, had united in secret *Frith-Gilds* of their own; and mobs arose from time to time to sack the houses of foreigners and the wealthier burghers. But it was not till the civil war began that the open contest recommenced. The craftsmen forced their way into the town-mote [meeting], and setting aside the Aldermen and magnates, chose [1267] Thomas-Fitz-Thomas for their Mayor. Although dissension still reigned during the reign of the Second Edward, we may regard this election as marking the final victory of the Craft-Gilds. Under his successor all contest seems to have ceased: charters had been granted to every trade; their ordinances fully recognized and enrolled in the Mayor's Court; and distinctive liveries assumed, to which they owed the name of "Livery Cos."—which they still retain. The wealthier citizens, who found their old power broken, regained influence by enrolling themselves as members of the Trade-Gilds; and Edw. III. himself honoured the current of civic feeling by becoming a member of the Gild of Armourers. This event marks the time when the government of our towns had become more really popular than it ever again became till the Municipal Reform Act of our own days. It had passed from the hands of an oligarchy into those of the middle classes, and there was nothing as yet to foretell the reactionary revolution by which the Trade-Gilds themselves became an oligarchy as narrow as that which they had deposed. (p. 195.)

1349.—The Labour Laws of this and the following years (23 Edw. III. c. 3; and 25 Edw. III. stat. 2) have been held by some writers to be the result of the action of the Gilds: in some instances direct, in others as indirect—as that the masters had to call in the aid of legislation to repress the evil influences of the Gilds. Dr. Brentano proves almost conclusively that these laws were due to the convulsions in the labour market produced by the plague of 1348; and in that connexion we shall notice the events of this period in more detail. [PLAGUES.] See 1389.

1363.—At this period many laws were passed against the practices of forestalling and

engrossing, which practices it was supposed tended to enhance the price of various articles of food—instead of being, as was the fact, the very reverse. The 37 Edw. III.—*A Stat. concerning Diet and Apparel*—recited and enacted as follows :

V. *Item*.—For the great mischiefs that have happened as well as to the king, as to the great men and commons, of that that the merchants, called grocers, do ingross all manner of merchandise vendible; and suddenly do enhance the price of such merchandise within the realm, putting to sale by covin and ordinance made betwixt them, called the *Fraternity and Gild of Merchants*, the merchandise which be most dear, and keep in store the other, till the time that dearth or scarcity be of the same: it is ordained, that no English merchant shall use no ware nor merchandise by him nor by other, nor by no manner of covin, but only one, which he shall choose betwixt this and the Feast of Candlemas next ensuing."

This most short-sighted measure—which indeed was founded upon a petition presented to the King the preceding year—was repealed in the very next session.

Under *Town-Gilds* we have already given much detail regarding the constitutional changes in the London Gilds during the reign of Edw. III. (1327-77).

1388.—In this year [12 Rich. II.] two Parliaments were held. The second of these, held at Cambridge, enacted various measures touching the condition of labourers, and regulating beggars and common nuisances. In this Parl. it was ordered that two writs should be sent to every Sheriff of England, commanding him to make public proclamation throughout the shire, the first calling upon "the Masters and Wardens of all Gilds and Brotherhoods" to send up to the King's Council in Chancery, Returns of all details as to the foundation, statutes, and property of their Gilds; the second calling on the "Masters and Wardens and Overlookers of all the Mysteries and Crafts" to send up in the same way copies of their Charters or Letters Patent, where they had any. These writs were sent out on the 13 Nov. this year, and the returns were ordered to be sent before the 2nd Feb. following. These returns, made now nearly 5 centuries ago—some of them mark their date as 40 years after the "great pestilence" (of 1348)—are to the number of about 500 still preserved in our national Record Office [discovered by the late Mr. Toulmin Smith, not many years since], and from the information they convey many of the details which follow will be—as some of those which precede have been—drawn.

We propose to give an abstract of certain of the returns made in conformity with the foregoing writ; and in this view it will be convenient to arrange the results into Towns and Counties—the latter only where several of its towns had Gilds; keeping in mind that completeness here has not been so much the object as comprehensiveness. The object is to illustrate the nature of the Gilds prevailing in different parts of the kingdom. The County of *Norfolk* is made an exception—here all the Gilds making returns are enumerated. These returns were made in English—the English of the period, and of which we have given various examples. In most other cases they were given either in Latin or Norman French.

The leading features of each Gild are stated, and more especial features are indicated in italics. The dates of the foundation of the several Gilds are stated where these could be ascertained.

Berwick-upon-Tweed.—The Gild of this ancient border-town possesses many features of interest, as illustrating the process of absorbing many separate fraternities into one Corporate Gild. This event occurred in A.D. 1283-4—indicating necessarily an earlier existence for the Gilds so absorbed. We shall give the substance only.

Statutes of the Gild ordained by the pleasure of the Burgesses, so that, where many Bodies are found side by side in one place, they may become one, and have one will, and in the dealings of one toward another have a strong and hearty love. All separate Gilds, heretofore existing in the borough, shall be brought to an end. The goods rightfully belonging to them shall be handed over to this Gild. No other Gild shall be allowed in the borough. All shall be as members having one head, one in counsel, one body, strong and friendly. *Bretheren shall bequeath something to the Gild if they make wills.* Men, not being bretheren, making a bequest, shall have the benefit of the Gild. Foul words to incur fine, and if repeated, other penalties. *Heavy fines shall be paid for bodily hurt done.* Weapons shall not be brought to Gild meetings. "Commit no nuisance." New members, not sons or daughters of Gildmen, to pay 40s. *Whoever shall fall into old age or poverty, or into hopeless sickness, and has no means of his own, shall have such help as the Aldermen, Dean, and Bretheren of the Gild think right, and such as the means of the Gild enable to be given.* *Doweries shall be given to poor maidens,* either on marriage, or on going into a religious house. *Poor bretheren shall be buried at the cost of the Gild.* Help shall be given to bretheren charged with wrong-doing. Burgesses who disclaim the Gild shall not be helped by it. All brothers shall come to meetings at the sounding of the trumpet. No lepers shall come into the borough, a place being kept for them outside the town. No dung nor dust-heaps shall be put near the banks of the Tweed. "Silence in Court." *Every well-to-do burgess must keep a horse.* Handmills are not to be used—the miller must have his share. No townsmen (out of the Gild) shall trade in wool or hides unless he is free of the Gild; but stranger-merchants may do so. Under-hand dealings in the way of trade shall be punished. The market shall not be forestalled as to ship-borne food-stuffs. If any one buys goods, misled by false top samples, amends must be made. The price of mutton was fixed for the varying seasons of the year.

Butchers shall not speculate in wool or hides. The price of ale was also fixed. Brokers to be chosen by the Town, to which they were to present a cask of wine every year: their names to be registered. Goods for consumption shall not be bought up by hucksters before the bell rings. Forestalling the market not allowed; wool and hides not to be engrossed by a few buyers. No burgess to get an outsider to plead for him against a neighbour. The Gild shall be one and undivided. How the commonalty of Berwick shall be ruled. The Mayor and Provosts shall be chosen by the commonalty. Bewrayers [betrayers] of the Gild shall be heavily punished. No skinner nor Glover shall cut any wool from the skins during the summer months, but all skins to be sold as they are. Buyers of herrings shall share and share alike. Regulation for carriage of wine casks. Regulation as to quantity of beer to be brewed by alewives. Butchers shall not forestall the market. Leathers must be sold in open market. No one shall have more than two pairs of mill-stones. Local custom as to sharing goods bought. The place and times for buying and taking away sea-borne goods. Dues from foreign merchants to go to the Gild-stock. Out-dwelling bretheren of the Gild must deal in the town on market days.

This is probably the best type extant of the restrictions of the Town or Corporate Gilds of the Middle Ages.

Bristol [anciently *Bristow*].—The Gilds existing in this city of early mercantile renown—second only to London itself for some centuries—are, as was to be expected, of great interest. There is much difficulty in determining the date of some of them. They did not make returns under the Order of 1388; but it is convenient to review them at this point.

Gild of the Kalenders (founded before the Norman Conquest).—The interest attaching to this Gild will justify the quotation of the following account of it, which appears to be all that can be known of it now:

For the consideration of the rites and liberties of the Kalenders, of the fraternitie of the Church of All Saints in Bristow, who were a brotherhood consisting of clergy and laymen, and kept the ancient recordes and mynamentals, not onely of the towne, *but also of other Societies in other remote places of the kingdome*. In consideration whereof, there was a Commission sent from Walter, Bishop of Worcester, dated the 18th day of the Kalends of June, anno 1318, to warne all persons that had any charters, writings, or priviledges, or mynamentals, concerning the liberties or priviledges of the Church of All Saints and fraternities of the Kalenders, to bring them in, and also to enquire the truth of the same, in respect that most of the charters, writings, and recordes were lost and embezeled away, by reason of fire that happened in the place or library that was in the said Church of All Saintes. To the execution of which Commission were called and cyted the Abbott and Covent of St. Augustine of Bristow, and divers burgesses in the name of the Mayor and Cominaltie of the same towne, and also all Rectors and Vickers of the same deanery, who appeared, some in person, and others by theire procurators. These certified the said Bishop that, in times past, the said fraternitie was called the *Gild or Brotherhood of the Cominaltie, Cleargy, and People of Bristow*; and that the place of the congregation of the brethren and sisters of the same was used in the Church of the Holy Trinitie of Bristow, in the time of Aylworde Meane and Bristericke his sonne, who were Lordes of Bristow before the last conquest of England. *The beginning of which fraternitie did then exceed the memory of man*; and did continue successively, after the conquest, the place of meeting of the said fraternitie, during the time of William the Conqueror, William Rufus, and King Hen. I., and also of Robert Fitzhaymon, Consull of Gloucester and Lorde of Bristowe, and subsequently in the time of King Steeven, who tooke this towne by warre from Robert Earle of Gloucester, that was founder of the Priory of St. James. And after decease of the said Steeven, and reigne of King Hen. II., who was sonne of Maud the Emprise and daughter to King Hen. I., one Robert Fitzharding, a burgis of Bristow, by consent of the said Henry II. and Robert Earle of Gloucester, and others that were interessed therein, the said Gild or Brotherhood, from the said Church of Holy Trinitie unto the said Church of All Saintes did translate and bring; *and did found a schoole for Jewes and other strangers, to be brought up and instructed in Christianitie under the said fraternitie, and protection of the Mayor of Bristow and Monastery of St. Augustine in Bristoll for the time being*; which house or schoole is now called the Checker Hall in Wine Street.

There is a note that the place wherein the said kalenders and library were burned, is the roode loft or chamber next unto the streat, being on the north side of All Saintes Church, over the pictured tombe of Queen Elizabeth.

Gild of the Fullers.—This was a Craft-Gild, and the only outline of its objects which we have before us is a re-enactment of its Ordinances in 1406, which, however, recite its earlier existence, and state its objects as follows—this being in the form of a petition to the Corporation of the City:

Whereas the craft has of old time had divers Ordinances enrolled before you of record in the Gihald [Gildhall] of Bristol, in order to put out and do away with all kinds of bad work and deceits which divers people, not knowing the craft, from time to time do, as well in fulling cloths as in "pleitng" and "rekkyng," and many other defects in the said cloths; *by which defects the town and craft are fallen into bad repute in many places where the said cloths are put to sale, to the great reproach and hindrance of the said craft*. Wherefore, may it please your very wise discretions and honourable wisdom, to grant the said suppliants that all their good Ordinances of old time entered of record, and not repealed, be firmly held and kept and duly put in execution; *and that*

four good men of the said craft be chosen by them every year, and sworn before the Mayor loyally to present all manner of defects which hereafter shall be found touching the said craft, with power, twice a week, to oversee such defects, and likewise to keep watch over the servants and workmen of the same craft, within the franchise of Bristol, so that the said servants and workmen should not take more wages than of old time is accustomed and ordained. And besides, discreet sirs, may it please you to grant to the said suppliants the new additions and points below written, to the profit and amendment of the said craft, and to the honour of the said town.

The new Ordinances made were accordingly; (1) four searchers shall be chosen; (2) wages shall be regulated; (3) cloths fulled outside the town shall not be touched up by Bristol fullers; (4) penalty on the searchers if they fail in their duties. With power to make further Ordinances. "Given in the Gihald of Bristol, on the Monday next after the feast of the Nativity of the Blessed Virgin Mary, in the seventh year of the reign of King Henry, the fourth since the Conquest."

Gild of the Ringers.—"It is agreed and determined, that every one that is or shall be of the Company or Society of Saint Stephen's Ringers, shall keep all Articles and Decrees that are or shall be specified in this Ordinary concerning the good government and peaceable society of the said Co.; and that none shall be of the said So. but those that shall be of honest, peaceable, and good conversation, and such that shall be at all time and times ready to defend whatsoever shall be alledged against the said Co., as well in regard of any challenge as of any other wrong or injury that shall be offered and done by any one, of what estate or condition soever he be; so that we may not only stop the mouths of those that would or shall exasperate themselves against us, but also gain credit and reputation by our musical exercise: *that others of our rich neighbours, hearing these loud cymbals with their ears, may, by the sweet harmony thereof, be enlarged in their hearts to pull one string to make it more sweet.* And for these and other like causes, We have procured this Ordinary, and do confine and oblige ourselves to these articles following:" The articles were for choice of a Master and Wardens. Collection of quarterage of 1d. from each freeman of the Gild. New members to give a breakfast, or pay 3s. 4d. in money. Penalties on officers for not calling the Co. together, and on members who do not attend; also on those ringing out of place, and on blundering ringers. There must be no talk or noise while ringing; no interfering with each other or generally. New Master to pay 2s. towards a breakfast, the remainder of the company the balance. Each Warden shall give the Master a pint of wine. Every one must kneel and pray before going into the belfry. Those not paying fines and dues to be expelled. A peal to be rung every year in memory of a good doer to the Gild—many of whom are personally named, and days fixed in the Ordinance.

In the *Bristol Mirror* of 7 Dec. 1822, there appeared an account of a meeting of this Gild, with the addition of what professed to be some of these Ordinances. But parts of the report bore internal evidence of being inaccurate. It is probable that the Gild is still existing in some modified form.

The City also had a *Gild-Merchant*, of which however we find no available records.

Cambridge.—We have already quoted the Ordinances of a Gild existing in this University Town in the Saxon period. The following are some of those existing in the Middle Ages.

Gild of Holy Trinity, founded 1377.—The officers were to be an Alderman, two Stewards and a Dean; with a Chaplain if the Gild could afford it. Services to be attended on the eve and the feast of the Holy Trinity. *No priest shall have anything to do with the affairs of the Gild.* There were to be 4 meetings every year; when Stewards to give an account, and officers chosen. Help to poor bretheren, also to wives of bretheren [there were no sistren in this Gild—a feature common to many, but not all of the Cambridge Gilds at this period]. New members to be admitted with consent of Gild; to pay 13s. 4d. to Gild, 6d. to the Alderman, and 4d. to the Dean. A member might, on good cause shown, leave the Gild for a time. Proper respect was to be paid to the Alderman, who was to appease quarrels. This Gild was approved of by the Bishop of Ely, who granted two Indulgences in its favour.

The other Gilds of this town may be reviewed very briefly:

Gild of the Annunciation.—Founded 1379, "in order that among us and our successors kindness should be cherished more and more and discord be driven out." Payments to be made yearly by every brother; *but from these John Cornervail is, by common consent, to be free, on account of the trouble he took in founding the Gild.* There shall be four great torches; and also a chest with two locks and two keys. Quarrels shall be put to arbitration. No Parson nor Baker shall come into the Gild, nor any wife whose husband is not a member. No money shall be wasted over lawsuits.

Gild of the Blessed Virgin Mary (St. Botolph's).—If any brother comes to want by *mishap or sickness*, so that it is not through plunder by harlots, or through any other bad way of life, and he has not the means of living, he shall have 7d. a week during life, from the Gild, and a new gown every year. If two bretheren are at same time in want, then 4d. p. week each. The poor brothers shall be buried at the cost of the Gild; and all, whether rich or poor, shall be kept in memory. Every incomer shall give to all the rest the kiss of brotherhood.

Gild of the Blessed Virgin Mary (Juxta Eforum).—The Clerk and Beadle shall be

excused from the ann. payments. There shall be a Chaplain when they can afford it ; but help to the poor bretheren shall come before this. There shall be a chest to keep money and goods in ; and no money nor goods shall be applied without the consent of all the Gild.

The Ordinances of this Gild were declared good and lawful by the Consistory of Ely, under a decree dated 1st Feb. 1385.

Several of the other Gilds in Cambridge were founded after the date of these returns (although upon the model of earlier Gilds), viz. the *Gild of St. Clement* in 1431 ; *Gild of St. Peter and St. Paul* in 1438 ; and the *Gild of All Saints* in 1473.

Chesterfield (Derbyshire).—In this old town there were several Gilds more or less remarkable.

Gild of the Blessed Mary.—"This Gild was begun on the day of the Circumcision of our Lord, A.D. 1218, to hold certain services, and the better to assure the liberties of the town. First, all shall swear to uphold the due rights of the Church ; also they shall swear to take care for the rights of the lords of the place ; also they shall swear to guard all their liberties, within town and without town, and to give trusty help thereto whenever it may be needed." A chaplain was to be appointed to celebrate services on days named ; each brother was to bequeath by his will, towards masses for the souls of the bretheren, 12d. out of every £ of his chattels [5 p.c.], but he need not bequeath more than 40s. in all ; or none if his effects were below the value of 20s. Rites in honour of the dead. Help to be given *in case of loss by fire, murrain, robbery, or by any other mishap*—"so that such loss come not through his own lust, or gluttony, or dice-play, or other folly, viz. each brother 2d." Also aid to be given to those who, *through age, loss of limb, or leprosy*, are disabled or cannot support themselves, viz. "the bretheren who are able shall in turn supply him with needful food, or shall find for him a house of religion where he may stay during life." The deaths of past Aldermen and of "Hugh of the Peak" [either a founder or benefactor] "shall be yearly kept by the bretheren even to the end of time." Whoever has wronged another by deed or word, and will not make amends, shall be put out of the Gild. Every brother shall be *helped to defend himself at law*. Whoever has had loss or cost *for the sake of the common welfare of the Gild or town*, shall have it made good to him. The liberties of the town shall be actively upheld whenever there is need. The Alderman shall control the Gild-house, and the Dean shall summon members to collect moneys. The goods of the Gild shall be put into hands of different folks to make increase and duly to restore the whole. Whoever discloses the affairs shall be put out of Gild. Two meetings every year. Wax lights to be found, and an account of them kept. Two accountants shall be chosen. A rent-roll shall be kept, showing charges and discharges. Muniments of title to be kept under seal. The chaplain to keep vestments, etc. Offerings shall be made in Pentecost week. Every new brother to pay to the Gild on entering *jd.*, and to the doorkeeper *jd.* Fine for not attending meetings of the Gild.

The list of effects enumerated shows the Gild to have been a wealthy one.

Gild of the Smiths of Chesterfield.—This Gild had from the time of its foundation (date not stated, but probably very ancient) down to 1387 had a separate existence ; but the bretheren having then found their funds too small to fulfil their claims, at this date joined the *Gild of the Holy Cross of the Merchants of Chesterfield*. Its leading features were : An Elder Father, Dean, Steward, and 4 Overseers were to manage affairs. Help to be given to the sick ; also "if any of them fall into poverty, they shall go, singly, on given days, to the houses of the bretheren, where each shall be courteously received, and there shall be given to him, as if he were the master of the house, whatever he wants of meat, drink, and clothing, and he shall have a halfpenny, like those who are sick : and then he shall go home in the name of the Lord." Lights to be set round the body of the dead. Whoever is wrongfully imprisoned shall be helped by the Gild. The bretheren shall bequeath something to the Gilds ; the goods of intestates to be held liable for moneys due to Gild. Moneys borrowed must be paid on day appointed. Rebellious bretheren shall be heavily punished. Debtors and wrongdoers to be kept altogether aloof from the Gild. Oath to be made to keep these Ordinances.

In the return no patron saint was named ; it seems, however, to have been under the patronage of the Holy Cross. Occasionally the Gild-Merchants had no patron saint.

Gild of the Holy Cross of Merchants of Chesterfield. No details.

Coventry.—See *Warwickshire*.

Exeter.—The Gilds of this ancient and pleasant city are possessed of much interest. There were probably many of which we now know nothing. We have already given the Ordinances of one under the Anglo-Saxon period. Those we have now to notice were Craft-Gilds. It seems that these Gilds were in early conflict with the Church here, as will more particularly appear in our notice of the Tailors Gild. It is also seen how the Gilds were falling under the control of the Municipal Corporations.

Gild of the Cordwainers, incorporated 1387—probably upon an earlier foundation.—The Gild applied to the Corporation of the city to let them have some Ordinances, and the request was granted—the following being their purport :

The Gild shall make search for all goods badly made, and the produce should go half

to the city and half to the Gild. Those chosen for Master and not serving to be fined ; as also those chosen as shop-holders, and those as journeymen's Wardens. Those summoned before Master and Wardens, and not appearing, to be fined. No craftsman shall keep a shop unless free of the city. No craftsman shall wear the livery of any lord or other gentleman. Fourpence shall be paid to the Gild-wax for every fresh workman taken on by a craftsman. No craftsman to take another man's servant. Penalty on every man not paying his share towards the Priest and the Chapel. Every Master shall be answerable for his servants. *All the powers of the Gild shall be surrendered to the Corporation every year, and a fine paid for the renewal of them.* These Ordinances are enrolled in the records of the City.

Gild of the Tailors.—The history of this Gild is very remarkable. Its founders, or bretheren at a later date, did not choose to submit to the arbitrary dictates of the Corporation, and besides paying to the city half the penalties imposed on its officers and others, pay a fine for the annual renewal of its powers (as the Cordwainers had done). They took up "swerdis and daggariis" rather ; and finally the dispute came to be referred to the King (Edw. IV.), wherein it was awarded that "the Master and Wardens shall make no order prejudicial to the lyberties of the byshop and his church, or to the Mayer and Citie." "The M^r. and Wardens shall governe the mysterye w^{thin} the jurisdiction of the Citie onelye, and to reforme the defaultes of that mystery onelye." "No person to be admitted to the freedome of the citie in that crafte oneies it be first testified by the M^r. and Wardens unto the Mayer that he is an honest and a meete man," etc., etc. The Mayor and Council of the city held a wine-party to celebrate their triumph in the King's award. But the costs to the city attending the obtaining the award much lessened the effects of the supposed victory, if victory it were. Finally the Gild gets a new set of Ordinances, but this not until some time later than we are now at ; but it is a matter of convenience to take the Gilds of the city altogether ; and there is no doubt that the Gild did exist during the 14th century.

The purport of the new Ordinances was as follows : The Master and Wardens shall meet regularly in the common-hall of the Gild to deal with the affairs of the Gild. Every full craftsman worth £20 shall belong to the Gild, and shall pay 12d. a year for the feast, and also pay for his livery within a month after Midsummer. *He shall also give a silver spoon weighing an ounce, and made in the fashion.* Craftsmen outside the livery shall pay 6d. a year. There shall be a feast on St. John's Day : every shop-holder paying 8d. towards it, and every servant at wages paying 6d. ; other bretheren 4d. Payments shall be made by free sewers [stitchers]. Whoever is employed for 15 days shall be made a free sewer ; and his master shall pay his xxd. or find surety. Bonds shall be forfeited on non-payment of dues ; *but those fallen into poverty shall be released, and shall be helped.* Penalties for using bad words ; also for irregular trading out of the city. There shall be four regular Gild meetings—all being held on the "day of Thor." After the masters and shop-holders have dined, the sewers shall have the fragments of the feast. *Every member shall spend something.* No craftsman shall have more than 3 servants and one apprentice, unless he have license. The indenture of every apprentice shall be enrolled. Every apprentice shall pay a silver spoon to the Gild, and shall give a breakfast when he becomes a freeman. Every one made free of the Craft by redemption shall pay 20s., and give a breakfast when made free of the City. The number of servants newly made free-men shall have, defined. The form of oath to be taken by Craftsmen we have already given under "*Oaths of Admission*," and there were oaths for all other officers, etc. A prayer was to be put up for the Gild, and the King, Queen, Princes, etc. ; and for the King's Council ; and for sundry good doers to the Gild.

Gild of the Bakers.—Date of origin uncertain. The Ordinances from which we quote were not granted by the Corp. of the city until 1483 ; and these were in substance as follows : An ann. feast to be kept ; a Master and two Wardens chosen, and accounts rendered yearly. *All corn shall be ground at the city mills so long as those using flour can get enough thence.* 12d. to be paid for every fresh workman taken on by craftsmen—half to city and half to Gild, unless the man have been an apprentice to the craft. The Wardens with a city officer shall make search for all breaches of the law. Presentments to be made at the Mayor's Court with the goods forfeited. Searches to be made at hucksters' houses for bread made outside the town, such bread being forfeited. Horse-loaves to be made two for a penny of clean beans. *No Baker to be allowed in the town unless a freeman, and also one of the Gild.* Any article in these Ordinances contrary to the city liberties shall be reformed ; and no city custom can be lessened by it. The Mayor's seal was put to these articles.

Lancaster.—The only return made for the County Palatine of Lancaster was the following, which is remarkable in many respects. In its constitution it differs but little from the type of Burial Sos. which prevail so largely, and almost exclusively in this county, at the present day ; and it still more remarkably embodies the "collecting" feature—being the only Gild of this period known to have a regulation for collecting the dues by the aid of special officers. We give the Ordinances in their entirety, with the exception of one slight deviation.

Gild of the Holy Trinity and St. Leonard, founded 1377.—These Ordinances were made

on the Feast of St. Leonard, A.D. 1377. Whoever is admitted to the Gild shall make oath to keep these Ordinances. No one of the Gild shall do anything to the loss or hurt of another, nor shall allow it to be done so far as he can hinder it—the laws and customs of the town of Lancaster being always saved. No one of the Gild shall wrong the wife or daughter or sister of another, nor shall allow her to be wronged so far as he can hinder it. No one of the Gild shall take into his house any one known to be an adulterer, nor shall himself live in adultery; and if it be shown that he has done either, and after two warnings he will not amend, he shall be altogether put out of the Gild. . . . If any one of the Gild die within Lancaster, all the bretheren then in the town shall come to placebo and dirige, if summoned by the “belman,” or pay *ijd.* All shall go or send to the mass held for a dead brother or sister, and offer *ob.*, under the same penalty. Every one of the bretheren shall say, for the soul of the dead, as quickly as he can, *lx.* Pater-nosters, with as many Hail-Marys. And the anniversary of every brother shall be duly kept. If any of the Gild dies outside the town of Lancaster, within a space of *xx.* miles, *xij.* bretheren shall wend and seek the body, at the cost of the Gild. And if the brother or sister so dying wished to be buried where he died, the said *xij.* shall see that he has fitting burial there, at the cost of the Gild. Each brother and sister so dying shall have, at the mass on the day of burial, six torches and *xviij.* wax lights; and at other services two torches and *iiij.* wax lights. All the bretheren and unmarried sisteren of the Gild shall meet four times a year, on four Sundays (which are named). Each shall then pay *xiijd.* towards finding two chaplains to celebrate divine service in the town, for the welfare of the King and the Queen, and the Lord Duke of Lancaster, and the whole realm, and all the dead bretheren and sisteren of the Gild. Whoever does not come to these meetings, and does not pay the money within three weeks afterwards, shall pay half a pound of wax, which shall be doubled if there be a further arrear of three weeks. It is ordained that *xij.* good and discreet men of the Gild shall be chosen; who shall have the power of admitting fresh bretheren and sisteren; shall arrange with each of these what shall be paid on entry; shall deal with what other matters touch the good name, profit, and well-being of the Gild; and shall appoint the places and times of meetings:—and these *xij.* shall be chosen afresh every year, if it be thought fit. *Collectors shall be chosen, to gather in all dues.* They shall render an account to the aforesaid *xij.*, or the greater part of them, so that the *xij.* may every quarter let the Gild know how its affairs stand.

There was, however, a Gild at *Preston* at a very early date. We have referred to it under *Gilds Merchant*.

Lincolnshire.—There were numerous Gilds in various parts of this county. One example of the village Gilds will suffice.

Gild of Kyllnyngholm, founded before 1310. When a brother or a sister dies, four bretheren shall offer a penny, and each sister shall give a halfpenny loaf. “If a brother or sister is unlucky enough to *lose a beast* worth half a mark, every brother and every sister shall give a halfpenny towards getting another beast.” “If the house of any brother or sister is *burnt by mishap*, every brother and sister shall give a halfpenny towards a new house.” “Moreover, if the house of any brother or sister is broken into by robbers, and goods carried off worth half a mark, every brother and every sister shall give a halfpenny to help him.” If one has a guest, and he cannot buy ale, he shall have a gallon of the Gild’s best brewing. But the Gild will not allow any tricks in this direction. Whoever is chosen Provost must serve, or must pay.

Lincoln.—The Gilds of this ancient ecclesiastical city are of much interest: some of them present a combination of the Social and the Craft-Gilds:

Gild of the Fullers of Lincoln.—“This Gild was founded on the Sunday before the feast of the Apostles Philip and James, A.D. 1297, by all the bretheren and sisteren of the Fullers in Lincoln.” A wax light to be burnt before the cross on procession days. Directions as to who shall work at certain operations. Half-holidays on Saturdays; and no work on festivals. Outsiders may work at the trade on making small payments. A payment to be made before learning the trade. No thief shall stay in the Gild. On death of any member, bread to be given to the poor. “If any brother or sister is going on a pilgrimage to Sts. Peter and Paul [Rome], if it is a Sunday or other festival day, all the bretheren and sisteren shall go in company with him outside the city as far as the Queen’s Cross, and each shall give him a halfpenny or more; and when he comes back, if, as before said, it is a Sunday or other festival day, and he has let them know of his coming, all the bretheren and sisteren shall meet at the same cross, and go with him to the monastery.” Penalty for not keeping Ordinances. Help shall be given to those in want; but the money must be repaid before death or after. Lights and offerings on death. There were some new Ordinances added later, viz. allowances to officers; allowance for collecting moneys. Officers not serving to be fined. New members to pay to the Dean a penny.

Gild of the Tailors of Lincoln, founded 1328.—A procession shall be had every year. Payment on entrance, a quarter of barley, and *xijd.* “to the ale.” Help to the poor—*7d.* p. week. Burials for poor members, “according to the rank of him who is dead.”

Pilgrims to the Holy Land or to Rome to receive a halfpenny from each member, and processions to be formed. Services for those dying outside the city. Bequests to be made to Gild according to means, "vs. or xld., or what he will." Fee to Chaplain. Four general meetings every year. Payment to the Gild when any master tailor takes an apprentice. Quarrels to be arranged; whoever will not abide judgment of Gild to be put out. On feast days ale to be given to the poor. Burial rites. If any master knowingly takes a sewer who has wrongfully left another master, he shall be fined. Payment of vjd. to the Gild for every sewer employed by master. A dole to be given yearly by every brother and sister for distribution in charity. Fines for not serving offices.

Gild of the Tylers [Poyntours] of Lincoln, founded 1346.—New members to make themselves known to "Graceman," and pay a quarter of barley, ijd. to the ale, and 1d. to the Dean. Four "soul-candles" shall be found and used in services. Feasts and prayers, and ale for the poor. Help to the pilgrims. Burials provided. One brother shall not unfairly meddle with the craft-work of another. *All men of this craft in Lincoln shall join the Gild.*

Gild of St. Michael on the Hill, founded on Easter Eve, 1350.—On the death of a brother "soul-candles" shall be burned, and the banner of the Gild shall be taken to his house, and borne thence to church. There shall be a Gild feast. At the end the Ordinances shall be read and expounded; and flagons of ale shall be given to the poor. Absentees may rejoin the Gild on making payments. "And whereas this Gild was founded by folks of common and middling rank, it is ordained that no one of the rank of Mayor or Bailiff shall become a brother of the Gild, unless he is found to be of humble, good, and honest conversation, and is admitted by the choice and common assent of the bretheren and susteren of the Gild. And none such shall meddle in any matter, unless specially summoned; nor shall such a one take on himself any office in the Gild. He shall, on his admission, be sworn before the bretheren and susteren, to maintain and to keep the Ordinances of the Gild. *And no one shall have any claim to office in this Gild on account of the honour and dignity of his personal rank.*" Help to poor bretheren shall be daily given, in turn, by the Gild bretheren.

The Ordinances of this Gild were very lengthy; the main features only are here noticed.

Gild of the Resurrection of our Lord, founded at Easter, 1374.—Every brother and sister at entrance shall pay ivd. to the ale and 1d. to the wax; and also every year xiiijd. by four separate payments in the year. Those in arrear to pay a pound of wax. Lights to be kept burning from Good Friday to Easter Sunday. A hearse-frame, with lights, angels and banners, shall be put over the body of every dead brother; and other services be done. Help to poor bretheren, "if not through his own fault, by wasting his goods in unlawful uses,"—every member paying 2d. in the year to all impoverished. Fine on officers not serving. Holders of loans to bring them before the "Gracemen" every year. Mass and offerings for the dead. At the annual feast the Ordinances to be read. After dinner grace, the Lord's Prayer, etc., names of all dead bretheren and susteren shall be read over and the *De Profundis* said for their souls. Pilgrims to Rome, St. James of Galacia, or the Holy Land, to give notice, and receive contributions of one halfpenny from each member, with escort to city gate. Burials of poor bretheren. Surety for goods of Gild. Punishment to those who rebel against the Gild.

Gild of St. Benedict, "founded [date not stated] in honour of God Almighty, and of the Blessed Virgin Mary, and of our Lord Jhesu Christ, in the parish of St. Benedict." As many poor shall be fed as there are members of the Gild. Pilgrims to the Holy Land, St. James's, or to Rome, provided for. Services on deaths within the city, and bread given to the poor; and services on deaths outside the city. Help to poor bretheren. At the feast, when ale is poured out, prayer shall be said, and tankards of ale shall be given to the poor. New members on entering the Gild to pay 6s. 8d., in two instalments. "Morn-speeches" shall be held; and accounts then given by all who have any goods of the Gild on loan. On the Sunday after the feast another morn-speech to be made. Officers chosen and not serving to pay fine. Penalty if one member wrongs another, and for not coming to meetings.

There was also a *Gild of Minstrels and Players* in this city, concerning which we have no exact details.

Stamford.—There is the record of one Gild in this ancient town, viz. :

Gild of St. Katherine.—The Ordinances before us bear date 1494; but they are only a re-affirmation of those of a much greater antiquity. The Gild is to abide for ever. Services to be attended by all the bretheren on St. Katherine's Eve and St. Katherine's Day. All shall meet in the hall of the Gild, and the Alderman shall ask new-comers as to their willingness; and they shall take oath of fealty to God, Sts. Mary and Katherine, and the Gild; and shall also swear to pay scot and bear lot, and to keep the Ordinances of the Gild. They shall be lovingly received, and drink a bout, and so go home. Meeting to be held at 1 o'clock on St. Leonard's Day, or the next Sunday, to deal with the affairs of the Gild. There shall be a grand dinner in the Gild-hall once a year. After dinner an account to be given by every officer. Officers chosen and not serving to be fined. Gildmen must be of good repute, and pay vis. and viijd. on entering, spread

over four years, and afterwards *ij*d. a year for "Waxshote." Peals of bells to be rung at and after prayers for the souls of the dead; and the ringers to have bread, cheese, and ale. Services and ringings on death of Gildsmen.

There were four other Gild-returns from this town. The Gild of St. Martin has every year a bull; hunts it; sells it; and then feasts. The old custom was kept up in the 17th century. See Strutt's *Sports and Pastimes*.

London.—The chief reason why so few Gilds are included in the returns made from this City is unquestionably due to the fact that the Craft-Gilds, which had been by far the more numerous, had, at this date, assumed a Municipal character, and they therefore did not fall within the purview of the Parliamentary Writs. The following are Gilds of the Social type:

Gild of Garlekhith, founded 1375.—This Gild was estab. for the worship of God, and to nourish good fellowship. All bretheren must be of good repute. Each was to pay 6s. 8d. on entry. There were to be wardens who should gather in the payments, and yield an account thereof yearly. A livery-suit was to be worn; and the bretheren and sistren were to hold a feast yearly. Each member was to pay 2s. yearly. There were to be four meetings touching the Gild's welfare to be held in each year. There were to be free gifts to the Gild by the bretheren of "what hym lyketh." Ill-behaved bretheren were to be put out of the Gild. On the death of any, all the others were to join in the burial service, and make offerings under penalty. In cases of dispute the matter was to be laid before the wardens. Any member disobeying their award should be put out of the Gild. *Weekly help was to be afforded to all members of the Gild of 7 years' standing, in old age and in sickness; also aid to those wrongfully imprisoned.* New members were to make oath to keep the Gild ordinances. Every brother chosen warden must serve, or pay 40s.

Gild of St. Katherine, Aldersgate.—Oath to be taken on entry, and a kiss of love, charity and peace. Weekly help in poverty, old age, or loss by fire and water. The members' payments were quarterly, 3d., women paying at the same rate as men. Members to go to church on St. Katherine's Day, and afterwards choose officers [no feast mentioned, or apparently contemplated]. Burials were to be at the charge of the Gild, and to be attended by the bretheren. Any brother dying within 10 miles of London was to have worshipful burial; all costs being made good by the Gild. *Loans were to be made to bretheren out of the Gild stock, on pledge or security.* Wax lights were to be found and used on certain festivals; and further services after death. New members only to be admitted by assent on the day of the assembly. Four men were to keep the goods of the Gild and render an account. *Assent of all the brotherhood required to any new Gild ordinances.* Each of the brotherhood was to have "a vestement, a chalys, and a massebok," at the price of x. marks.

Gild of Sts. Fabian and Sebastian, Aldersgate.—Same general features as the preceding; with the add. feature that the young were to be helped to get work.

Gild of the Glovers, founded 1354.—This was purely a secular Gild. The Ordinances now before us purport to be made by the masters and keepers [or Wardens] of the Craft of Glovers in the City of London, and the bretheren. The following is a brief abstract only, for the Ordinances themselves are very full and extended:

1. Every brother shall pay sixteen pence a year, by quarterly payments, towards providing 2 wax tapers to burn at the high altar of the Chapel of Our Lady, in the new Church-haw beside London, and also to the poor of the fraternity who well and truly have paid their quarterage as long as they could.

2. If any brother be behind of payment of his quarterage by a month after the end of any quarter he shall pay sixteen pence, that is to say, 8d. to the old work of the Church of St. Paul of London, and the other 8d. to the box of the fraternity. Also, as often as any brother be not obedient to the summons of the Wardens, or be not present in the "hevenys that folk be dead," and in offering at the funeral of a brother, and in attendance at church with the fraternitie on the feasts of the Annunciation and Assumption, and others, he shall pay 16 pence in like manner.

3. Every brother shall come to *Placebo* and *Dirige* in the "hevenys of dead folk" in suit or livery of the fraternitie of the year past, and on the morrow to mass, and there offer, in his new livery or suit, upon pain of 16 pence.

4. If a brother be behind in his quarterage for a year and a day, and though it be in his power to pay it, he maliciously refuse, he shall be summoned before the official of the Consistory Court of London. [See 15th century.]

5. If any brother or sister be dead within the City, and have not of his (or her) goods him (or her) to bury, he (or she) shall have burning about his (or her) body 5 tapers and 4 torches, at the cost of the bretheren, provided the deceased have continued seven years in the fraternity, etc.

6. All the bretheren be clothed in one suit, etc.

7. The Masters, Wardens, and bretheren shall attend and hear mass on the feast of the Assumption, etc.

8. Every brother shall keep his livery for 4 years, etc.

9. The fee for entrance into the fraternity; also the form of oath.

10. On the day of the feast, when the bretheren have eaten, they shall go together to the Chapel of Our Lady before mentioned, and there continue the time of *Placebo* and *Dirige*, and on the morrow shall attend mass of *Requiem*, and from thence come together to their Hall, on pain of 16*d*.

11. If any brother revile another, he shall be fined 6*d*. or 8*d*., etc.

12. All the bretheren, with their wives, shall go together to their meat the Sunday next after Trinity Sunday, etc., etc.

13. Concerning the admission of apprentices.

14. Fines for "contrarying" against the rules.

15. Penalties for disobedience of rules and regulations as to apprentices.

These rules had been signed by 29 bretheren, who at the same time were sworn faithfully to keep and fulfil them.

Gild of the Blacksmiths.—The Ordinances before us do not bear date until 1434. They are made by the Masters and Wardens of the whole Co. of the Craft "in the worship" of St. Loy. In all material respects they resemble those of the Glovers.

Gild of the Shearmen [Clothworkers].—This is an ancient Co. arising out of interests connected with the woollen manufacture. The Ordinances before us bear date 1452, and recite that "the Wardens and freemen of the Craft for the more encrease and continuation of brotherly love and good example unto the honour of God, our Lady St. Mary, and all Saints, by license of the Mayor and Commonalty of the City of London, form a religious brotherhood amongst themselves for the sustentation of a perpetual light of 13 tapers to burn in the Church of the Augustinian Friars in London before the image of our Lady." This, however, seems to have been a fraternity inside the general Gild, the Ordinances of the latter being very minute in detail, but to the same general purport as the Glovers.

The Gild of the Water-bearers.—This was formerly an important body in the City of London (as its counterparts still are in some of the Continental cities of Europe [LISBON]); but it dates back probably to a time anterior to that at which Peter Moris (the Dutchman) erected his water-works at Old London Bridge; and certainly before Sir Hugh Myddleton brought his New River water into the City, which was in 1620. The Ordinances before us purport to be made in 1496 by the Wardens of the whole fellowship of the brotherhood of St. Christopher of the Water-bearers founded within the Augustine Friars. There is nothing in them requiring special comment.

Gild of the Holy Trinity.—There also existed in Aldersgate St. in the 14th century a Gild thus designated—the duty or obligation of whose members was to pay devout honour to the "five wounds of Jesus Christ; the five joys of the Virgin Mary, and the Three persons in the Glorious Trinity." A charity founded by this Gild exists at the present day, and is administered by the Lord Mayor and Recorder of the City.

German Gilds in London.—But the most extraordinary feature was the existence in London, at a very early period, of 3 Gilds of *Germans residing and trading in London*. Speaking generally, their objects were good fellowship, and where need might arise the succour of the poor members of the Gilds. These were:

1. *The Brotherhood of the Holy Blood of Wilsnak in Saxony*. The date of the formation of this Gild is not known, but its Ordinances were enrolled in the Commissary Court of London 1 April, 1459:

In the name of God that is Almyghti and of our Lady Seynt Mary his moder, and for the blesid blode of his sone Jesus Christ which is by all Cristen people wurshipped at Wilsnak, and opynly called the Holy Blode of Wylsnaek, and of all the Seyntes of Heyvne, the xiiijth day of April the yere of our Lord God Ml.cccc.lxix. and the yere of King Henry the Sixt xxxvij. A fraternitie in the speciall honour of the seid Holy Blode of Wylsnaek and of all the Holy Seynts of Heyvyn is ordayneid founded and devised in the Chirche of the Crossid Freres [Crutched Friars] of London for to norish encrease and engender love and peas amonge gode Christen people in the fourme sewing, that is to weten.

Then is set forth that the entrance fee was to be x*d*., with other Ordinances after the manner of the English Gilds of the period, and the following concerning the benefits receivable:

Also, if any brother or suster of the same Bretherhede by fortune shall [fall] yn naturall sikenesse by visitacion of God so that he nor she mought labore and travel to helpe them selfe, the same foke by waryng to the maysters for the tyme beyng the same day of the sikenesse comyng, or on the morow at forthest, shall have x*d*. every wike sewing [ensuing] unto the same seke be recovered of the sikenesse and that trewly be payed at every wikes withoute any longer delay.

2. *The Brotherhood of the Holy Blood of Wilsnak in Saxony*, held in Austin Friars. Date of foundation not recorded; Ordinances enrolled in Commissary Court of London, 8 Dec. 1490. It is recited in the Ordinances that the Fraternity with "oon assent and comen accorde for the helthe and salvacion of our synfull sowles and for pease loue and charite to be kept with our even crensten, have proposed to holde maynten and to kepe a Fraternyte within the chirch and cloyster of the Freres Austyn within the Cite of London in the worship and honor of the foresaid holy blode," etc. The Ordinance as to benefits to be granted to the brothers is as follows:

And also whan eny of our brethern happith to fall sike of som sikenesse that comith of Godis hande and not by no fawte of good governaunce and good gydyng, he shall have for his sustentacion after that he hath lien vij. dayes x*d*. every weke as long as he lieth sike, and this benefacte and charite shall perseyve as moche the moost as the lesse to thend this charite, and almosse be not mynnysshed be no wise, and whatever brother of the same brotherhod that shall owe to the same as moche as cometh to more money than iij*d*. ob. he shall not have nor perceyve the forseyd benefacte and charite of the said Brotherhod.

The other Ordinances of this Gild are particularly interesting.

3. *The Fraternity of Saint Katheryn*, which is stated to have been "founded and ordeyned by Duchemenne iiii^{xx} yeres passed in the Crosse Fryers in the Cite of London." This was enrolled in the Commissary Court of London 25 Oct. 1495 (10 Hen. VII.); and if it had only been founded by the Dutchmen 80 years previously, as its preamble recites, then it belongs to a later period than that of which we are writing. Another Ordinance, reciting that its earlier Ordinances, Acts, Constitutions, and Rules had been "specyfyed and declared in Duych tong," points however to a probably earlier origin. The names enrolled look remarkably English-like for even the 15th century.

Ludlow (Herefordshire).—This ancient town had a Gild with some special features.

Gild of the Palmers, estab. 1284, or earlier.—"When it happens that any of the bretheren or sisteren of the Gild shall have been brought to such want, through *theft, fire, shipwreck, fall of a house*, or any other mishap, that they have not enough to live on; then once, twice, and thrice, but not a fourth time, as much help shall be given to them out of the goods of the Gild, as the Rector and Stewards, having regard to the deserts of each, and to the means of the Gild, shall order; so that whoever bears the name of this Gild shall be *up-raised again*, through the ordinances, goods, and help of his bretheren." If a member be wrongfully thrown into prison, or his goods taken, no pains shall be spared to free both, at the cost of the Gild if necessary. In case of sickness, help to be given out of the common fund of the Gild, till well again; or in case one becomes a *leper*, or *blind*, or maimed in limb, or smitten with any incurable disorder, the goods of the Gild to be largely bestowed upon them. "If any good girl of the Gild, of marriageable age, cannot have the means found by her father, either to go into a religious house or to marry, whichever she wishes to do; friendly and right help shall be given her, out of our means and our common chest, towards enabling her to do whichever of the two she wishes." Services for the dead shall be attended. "If any man wishes, as is common, to keep night-watches with the dead, this will be allowed, *on the condition that he neither calls up ghosts*, nor makes any mockeries of the body or its good name, nor does any other scandal of the kind; lest, by such scandals, the discipline of the Church may be brought into contempt, and the great judge may be provoked to heavier vengeance, who ought rather, by reason of the sins of the people, to be asked for love and mercy. And never shall any woman, unless of the household of the dead, keep such a night-watch." The Rector and Stewards of the Gild to be chosen by picked men. Endowments made before A.D. 1279 confirmed.

Norfolk.—The following is believed to be a complete return of the Gilds existing in this country at this date (1388-9); and all the towns are easy of identity.

East Wynch.—In this town (or village) there was the

Gild of Est Wynch, founded 1377.—Four meetings shall be held every year. Officers to be chosen by picked men. Services for dead, and offerings. Masses for the souls of the dead. Allowances to members in sickness, viz. "a lof, and a potel of ale, and mes of kechen [stuff]."

Lynn.—The Gilds existing in this then famous seaport, at this date, were:

Gild of the Nativity of St. John Baptist, founded 1316.—Three meetings shall be held every year, to which every brother and sister must come under penalty. Officers shall be chosen by picked men; those not serving to pay a fine. The stewards shall find sureties for the goods of the Gild, and render an account at the yearly general meeting. *Every feast shall be begun with a prayer*; the Gild-candle shall burn the while; and all that are there shall be noiseless. Services for the dead, and offerings. New members shall undertake to keep the ordinances, and shall pay the usual house-fees and entrance-money. Masses for the souls of the dead. Allowances to officers on feast days. The Dean shall be fined if he fail to summon any of the bretheren. The Gild shall go to church in procession on the day of their yearly meeting, and hear mass, and make offerings. *Help to poor bretheren and sisteren*. The funds of the Gild at this date appear to have amounted to £4 1s.—this indeed representing a large amount of our present coinage—held by its four principal officers.

Gild of St. Peter (at Lenne), founded 1329 [or 1339].—Four meetings shall be held every year, at each of which every brother and sister shall pay a halfpenny towards maintaining a light burning during divine service. Penalty for not coming to any meeting. The Dean shall be fined if he fail to summon any. Officers shall be chosen by picked men; those chosen and not serving shall be fined. Services for the dead, and offerings; and bretheren not coming, if able, shall be fined. Masses for the soul. The Alderman shall deliver the goods to the Stewards, upon surety given to render account thereof at the yearly general meeting. Allowances to the officers on feast days. New-comers shall undertake to keep these statutes; and shall at once pay the usual entrance-money or find sureties. The Dean's salary vjd. in the year. Any brother or sister wronging another shall be fined. *Help to be given to poor bretheren*.

Gild of St. Nicholas, in Lenne Petri (West Lynn), founded 1359.—Four meetings in the year; whoever grumbles shall be fined. No one shall enter the buttry where the ale lies.

Gild of the Purification, in Bishop's Lynn, founded 1367.—This was a social Gild "in ye honraunce of ihesu crist of heuene, And of his moder seinte marie, and of alle halowene, and speciallike of ye Purificacioun of oure lady seint marie." Its features were like other of the Religio-Social Gilds of the town.

The Shipmanes Gild, founded 1368.—Three meetings shall be held every year, on days named, or as the Alderman shall appoint. Every brother must come to every meeting, if able. The Dean shall be fined if he fail to summon any. Officers chosen and not serving shall be fined. New-comers [members] shall pay the usual house fees and entrance-money. Services for the dead, and offerings. The bellman shall summon all. Masses for souls of the dead. Unruly brothers shall be fined. One wronging another shall be fined, and shall make peace. *Penalty for disclosing the affairs of the Gild.* The Stewards shall render an account of the goods of the Gild, and of the year's profits, at the yearly general meeting, under penalty to be paid by themselves or their sureties. *No Gild-brother shall give pledge or become surety for another, in any plea or suit, without leave of the Alderman and others.* The Alderman, etc., shall do their best to adjust the quarrel; but if unable, shall give leave to make suit at law. Fine for disobedience. *Allowances to the officers on feast days.* Help to poor bretheren. *Payments shall be made for every voyage; and a yearly payment if no voyage made.* The ale-chamber not to be entered. New-comers shall swear to maintain the Ordinances of the Gild. New-comers must undertake to come to the yearly meetings, if at home, and must make their payments. The livery-hood shall be kept for 2 years. On death of a brother, all the rest shall be summoned, and shall come to the service in their livery-hoods, and make offerings. None shall leave until the service is done; fine for default.

A new Ordinance was made for this Gild in 1381, viz. burial service in the case of any brother dying out of town.

In 1382 another new Ordinance, viz. burial service for those dying in West Lynn and South Lynn.

It is clear that this was a Gild of a superior order, more after the nature of a Merchant-Gild.

Gild of St. John Baptist, in Bishop's Lynn, founded 1372.—This partook of the general character of the Social Gilds of the town, except that there seemed to be no special provision for the poor members in sickness, etc. The Ordinances provided that there should be no quarrelling during any feast-time or meeting. Moneys were to be contributed towards the Gild-stock, and the ale.

Gild of St. John Baptist, in West Lynn, founded 1374.—Services for dead, and offerings. The Dean shall buy wastel-bread with these offerings, and give it [to the poor]. Penalty on any one disputing any of these Ordinances.

Gild of St. George the Martyr, founded in 1376.—A priest shall be found to serve at the altar of St. George. Candles and torches shall be found to burn during the service, and at burials. Services for the dead, and offerings. Services shall be held, though the brother or sister shall have died outside the town. Masses for souls of the dead. *Help to poor bretheren and sisteren.* Four meetings to be held every year, to which every brother and sister shall come under penalty. Officers shall be chosen by picked men; those chosen and not serving to be fined. Allowance to officers on feast days. The Gild shall go to church on the day of yearly meeting, and hear mass and make offerings. The affairs of the Gild not to be disclosed. The Stewards to find sureties for the goods, and to render account at the yearly general meeting. Every feast shall be begun with a prayer; the Gild-light burning the while; and they that are there making no noise nor jangling. *New members admitted only at the yearly general meeting, and with the assent of all; save good men from the country.* New members shall undertake to keep the Ordinances, and shall pay the usual house-fees as well as entrance-money. If any quarrel arise, it shall be told to the Alderman, who shall do his best to settle it. Livery-hoods to be worn at the meetings, and at every burial service. Breakers of the Ordinances, after 3 fines shall be put out of the Gild. Salary of the Clerk iijs. i^{vd.}, and of the Dean ijs. the year. The funds of the Gild consisted of £3 3s.

Gild of St. Thomas of Canterbury (in Lenne), founded 1376.—The Gild, all fairly arrayed, shall meet on St. Thomas's Day, and hear mass, and make offerings. There shall be 4 other general meetings in the course of each year. An Alderman shall be chosen, and 4 Stewards, and a Dean, and Clerk. A large wax candle shall be kept burning. The order of burial services defined. Wrongdoers shall be put out. New-comers shall pay 5s. each. *If any become poor, or have loss by sea, or by fire, or otherwise, help shall be given.* Assent given to these Ordinances. Wages of Clerk to be ijs., and of Dean xvij^{d.} for the year.

The Gild of Young Scholars, founded 1383.—Gifts were received in support of the Gild. Burial services defined. *Help in case of poverty, loss at sea, or other mishap.* Three speakings together [assemblies] of the Gild shall be held every year; accounts shall be then rendered. All the bretheren shall go to church on one day in the year, and hear mass and make offerings. Misdoers shall be put out. Officers shall be chosen. It was stated that all the goods of the Gild had been spent, but more were hoped for.

Gild of St. Thomas of Canterbury (at Lenne).—Four meetings to be held every year,

to which all must come under penalty. New-comers shall pay the usual house-fees. *Attendance at meetings must be punctual.* Services for the dead, and offerings. Masses for the soul. Sureties and entrance-money for new-comers. Allowances to the officers on feast days. *Help to the poor.* Allowances to the sick. No noise to be made during the feast time. The other Ordinances resembled those of the other Gilds of the town.

Gild of St. James, in North Lynn.—Four meetings in the year. Three candles to be kept burning during divine service. *Help to needy bretheren and sisteren.* Unruly speech shall be punished by a fine. Other features general.

Gild of St. Edmund, in North Lynn.—A Religio-Social Gild with special features.

Gild of Candlemass, in North Lynn.—No special features.

Gild of St. Lawrence, in Bishop's Lynn.—It had no special features differing from the Social Gilds of the town.

Gild of St. Edmund, in Bishop's Lynn.—This again had no special features. The entrance-money *iiij*s.

Gild of the Nativity of St. John the Baptist.—Three meetings shall be held every year, to which every brother and sister must come under penalty. The Dean shall be fined if he fail to summon any. New-comers shall pay the usual house-fees. Services for the dead, and offerings. *Penalty for betraying the affairs of the Gild.* Officers chosen and not serving shall be fined. Masses for souls of the dead. The ale chamber not to be entered. Salaries of the Dean and the Clerk provided for. The Stewards to find sureties for the goods of the Gild, and render an account at the yearly general meeting. *No man shall stay in the Gild-house after the Alderman has left.* Allowances to the officers on Gild-days, and to sick bretheren and sisteren. *Help to poor bretheren and sisteren.* Entrance fee *ij*s., "and find *ij*. borowes for ye catelle."

Gild of St. Thomas of Canterbury, in Bishop's Lynn.—This was on the same basis as the other Social Gilds of the town. A few special Ordinances obtained. If one brother belie another, he shall be fined. If any one is foulmouthed to the Alderman at any meeting, he shall be fined. If any one wrong another, he shall be fined. None shall come to the feast in a tabard, nor in a cloak, nor with legs bare, nor barefoot. If any one make a noise during the feast, he shall do penance by holding the rod, else pay a fine. No one shall sleep, nor keep the ale-cup to himself. *Help to poor bretheren and sisteren* [record incomplete].

Gild of the Holy Cross, in Bishop's Lynn.—The chief distinctive feature of this Gild was that allowances were made to the bretheren and sisteren during sickness, but also *while on pilgrimage*. No brother was to go to law with another without leave of the Alderman.

Gild of St. Anthony (in Lenne).—Founded (date uncertain) "in the Worchepe of God of heuen, and of his modir seynt mari, and alle the holy Company of heuen, and souerengly of the Noble confessor seynt Antony." The Gild shall meet in church and hear mass and make offerings. There shall be four other general meetings of the Gild in each year. New-comers (members) shall pay 5s. each. A wise Alderman shall be chosen, and 4 trusty Stewards, and a summoning Dean, and a Clerk. Burial services on death of members, and offerings. *In cases of loss of cattle, or personal sickness, help to be given.* Wages of the Clerk and Dean to be *xij*d. each "for his trauaile in the yere."

Gild of St. Leonard.—There shall be four general meetings every year; at the first there shall be chosen an Alderman and four Stewards, a Dean, and a Clerk. New-comers shall pay 3s. each. Burial services defined. *In case of loss by sea, or other mishap, help shall be given.* If death outside the town, the body shall be fetched at cost of the Gild. *Prisoners shall be visited and comforted.* Rebels against canon law shall be put out.

Gild of the Purification.—The Gild shall meet on Candlemas-day, and have besides three meetings every year. No special features. *Help to those in trouble.*

Gild of St. Mary.—Services for the dead and offerings. Masses for the souls of the dead. No special features.

Gild of St. Katherine.—A candle shall be kept burning in the Church of St. Margaret; and on the Feast of St. Katherine offerings shall be made. New members to pay 5s. entrance-fee. Masses for the souls of the dead. No special feature.

Gild of St. James.—Help to poor bretheren and sisteren. No special features.

Gild of the Conception, in Bishop's Lynn.—There were to be four meetings in the year; every brother and sister was to pay 1d. towards finding a light on festival days; and any member summoned and not attending was to be fined; remainder of the features in common with other Gilds of the town.

A great number of the Gilds in this town were of the religious order, and many of these made no provision for the members in case of sickness or other misfortune happening to the members.

Norwich.—The Gilds existing in this important city at this date (1388-9) were:

Fraternity of St. Katherine, commenced in 1307.—All the members of the Gild were to go in procession on the day of St. Katherine, and make offerings; *penalty on absent members.* On the day following, mass, etc. Burial services to be attended and offerings made—the duties of the lettered and of the unlettered bretheren and sisteren specifically defined.

Bretheren dying within 8 miles of the city to be brought in for burial, or at least the usual services done. Poor bretheren to be helped; and causes of quarrel to be laid before the Gild. Fine on refusal to take office. A livery-hood to be worn, and all the members to dine together on the Gild-day. Admission of new members only by common consent. Goods of the Gild enumerated.

The Tailors' Gild, founded 1350.—The Gild to meet together, and the next day a mass of requiem. The bretheren to obey summons of Alderman to audit accounts; fine if absent. Meeting after Easter to choose officers, etc. Payments to be made to sexton and clerk; help to the poor and maimed. Burial services and offerings, to extend to those dying within 7 miles of the city. Service for those dying abroad. Oath to be taken by Gild-members. Alderman to be chosen. At meetings a candle to be kept alight, and a prayer said. A summoner to be chosen, and requited by quittance of the usual payments. A fee of 1*d.* to be paid to the Bedel on entrance to the Gild. The Gild had no land, but was maintained by the charges levied under the Ordinances.

Gild of St. Mary, commenced in 1360.—It was of the Religious type. The bretheren and susteren of the Gild, as long as there should be 12 of them living, were to provide a candle and torches, to be used on certain festivals named "in wyrschipe of crist and his moder." There is a note of the masters of the Gild and of the property in hand.

Fraternity of St. Trinity, in the Cathedral, begun in 1364.—A solemn service to be held on the eve of the Feast of the Trinity. A mass of requiem shall be had, and offerings made. Burial services and offerings. Help to poor bretheren. Fines for absence from meetings of Gild. Goods of the Gild.

The Carpenters' Gild (founded 1375), in honour of the Holy Trinity.—A yearly meeting to be held, which shall begin with prayers. A yearly procession and offerings; burial services and offerings, to extend to all bretheren dying within 7 miles of the town; service for those dying abroad. Help to those fallen into poverty or mishap, if not brought about through folly or riotous living. Fine for non-fulfilment of Ordinances unless there be good excuse. Neither the King's right nor the law to be encroached upon. The Gild appears to have been entitled to gifts by certain Masons—probably of another Gild.

Gild of the Pelyters [Furriers], founded 1376.—Two candles, dressed with flowers, were to be yearly offered at St. William's tomb, by a procession of a boy and two good men. Only three excuses were to be allowed for non-attendance at mass, viz. being in "ye kyngges seruise, er for stronge sekenesse, or twenty myle duellynge fro yis syte," unless it were otherwise willed. No Ordinance to prejudice the King's right, or the law. On the morrow of the Gild-day the Gild to hear a mass in requiem; after the mass to go to an inn, audit accounts and choose officers. The officers to be chosen by picked men. Bretheren or susteren fallen into trouble or misese to have weekly help; but not so if brought on by their own folly. Fine on refusal to take office. Burial services and offerings, extending to deaths within seven miles of the city. *An annual feast to be held.* Fine for not attending meetings. Admission of new-comers to be regulated by "ye Alderman and xij bretheryn." The common bellman to summon the bretheren to meet on the morrow of the Gild-day. The Gild (it was declared) had no land, but was maintained by charges levied, and by legacies, and other gifts.

The Poor Men's Gild, founded 1380, "in honor of oure lord Jhesu crist, and of oure lady seinte marie, and in wurship of seyn Austyn."—A light to be found in honour of St. Austyn; mass and offerings at the same time. Help to those fallen poor, sick, or in other mischance. All dying within 7 miles of the city to have burial services.

Gild of St. Botulph, founded 1384.—The meeting of the fraternity to be held on the Sunday next after the Epiphany; next day they were to have a mass of requiem. Burials to be attended by the bretheren, and offerings made. Help to the poor bretheren and susteren was to be made by the members at the rate of "a ferthyng in ye woke." The goods of the Gild are enumerated.

Fraternity of St. Christopher, founded 1384.—Prayer to be said at every meeting for the Church, Peace, Pope, Cardinals, "ye patriak of Jerhusalem," "for ye holy londe and ye holy crosse, yat godd for his myght and his mercy bryng it oute of hethen power into reule of holy chirche," Archbishops, Bishops, Parsons, King, Queen, Dukes, Earls, Barons, Bachelors, Knights, Squires, Citizens, Burgesses, Franklins, Tillers, Craftsmen, Widows, Maidens, Wives, Commonalities, Shipmen, Pilgrims, Unbelievers, our Fathers' and Mothers' souls, and for all of this Gild. The Gild-day was to be on the Sunday before the Feast of St. Christopher. *No Ordinance shall be against the common law.* There was to be a yearly mass of requiem, and offerings; also offerings at burials; and two poor men to carry torches. Poor bretheren were to be helped. This was evidently a Gild of a higher order than many in this city.

Gild of St. George, founded 1385.—The day of St. George was always to be kept, and offerings made on that day; next day a mass of requiem. Burial services to be attended by the bretheren, and offerings made. Weekly help to poor bretheren. Goods of the Gild enumerated.

The Saddlers' and Spurriers' Gild, founded 1385.—The Ordinances to be kept so long as 12 of the Gild lived. Two torches to be kept burning at the elevation of the host at high mass. The Gild meeting to be held on the first Sunday after Trinity, and the

members to have a livery. All to meet the evening before *to pray for their own souls*. Next morning mass shall be heard, and offerings made, and all shall go in procession to the Nunnery of Carrow. On death within the city all shall be at the dirge, and two poor men with them. The same at interment; and offerings and gifts to be made. Service with the bretheren on death within 3 miles of the city; and service on death of one dwelling beyond, at Carrow.

Brotherhood of Barbers.—Torches and other lights, etc., should be offered on Midsummer-day. Torches were to be kept burning during high mass. The Gild appears to have been dedicated to "seynt John the Babbis."

Oxenburgh [*Oxburgh*; *Oxborough*].—There were 8 Gilds in this town (now village) at this date, of which the following may be taken as a type:

Gild of St. John Baptist, founded 1307.—The officers, bretheren and susteren shall come to evensong on the day of St. John the Baptist, and make offerings. Help to those "in trouble" was to be given at the rate of one farthing a day; one halfpenny on Sunday. Prayers for the dead.

Gild of St. Peter, founded 1378.—The members of the Gild to assemble at evensong on St. Peter's Day, and make offerings. Help to those in trouble—rate not distinctly specified. Fine for betraying the affairs of the Gild.

Wygnafe [*Wyggensale*, now *Wiggenshall*].—The Gilds existing in this town or village, which was located near King's Lynn and appears to have been of some importance, were:

Gild of the Assumption, founded 1384.—Latin prayers to be said out of the Church offices. English prayer of the Gild for the Church; for the King, Queen, and Baronage; for the Pope and the Patriarch; for the Holy Land; *for the fruit of the earth; for shipmen and travellers*; for the founders of the Gild; and for the souls of the dead and living. Search to be made for any one dying suddenly, by water or by land: and he shall have burial services. Any one helyng another shall be fined.

Gild of the Holy Trinity.—Latin prayers shall be said out of Church offices. Burials at the cost of the Gild. Drowned men shall be searched for.

Gild de Cranbone, founded 1387.—Latin prayers to be said out of Church offices. English prayer of the Gild for the Church, Pope, Cardinals, Patriarch, Archbishop of Canterbury, and other Bishops, King and Queen, and the commoners of the realm. Burials at cost of Gild. Every quarrel to be brought before two bretheren. Two meetings shall be held every year.

Gild of St. Trinity, founded 1387.—Four meetings shall be held every year, at which payments to be made for lights.

Gild of St. Peter.—Two meetings shall be held every year. All shall go to church with a garland of oak leaves. Service for the dead, and offerings. Bread to be given, and masses sung for the souls of the dead. Men dying by water or land to be searched for and buried. Meat and drink to be given at yearly meeting. The funds of the Gild then (1388) consisted of 11s.

Oxford.—This ancient seat of learning boasted in early times of a *Gild-Merchant*, and also several other Gilds. Among the returns made to the Writ of 1388 are only three relating to the Gilds of this city, and these so inferior in point of interest that Mr. Toulmin Smith did not think it necessary to incorporate them into his work. They appear in their main features to have resembled the Gilds of *Cambridge*, which we have already reviewed in some detail. Curious to relate, some MSS. returns found in the Bodleian Library turned out to relate to Gilds at Cambridge.

At Burford, in the county of Oxford, there appears to have been a Gild, founded on the model of the Gild-Merchant of Oxford City.

Reading (Berks).—There was about this period a *Gild-Merchant* in this town. No return from it was made at the period of the other returns already reviewed, and nearly all that we really know concerning it is derived from a letter addressed by Hen. VI. to the Warden of the Gild (year not specified), the purport of which was to tell the Warden that he must bear no mace, *if it offended the Abbot of Reading!* The Warden of the Gild was only the humble servant of the Abbot, and must not presume to have any mark of authority, save two tipped-staves borne by the Abbot's bailiff. The Abbot and the bailiff were supreme in that part of the world: so, Mr. Warden, do not carry a mace, or let any one else carry it; be content with the two tipped-staves of the Abbot!

Warwickshire.—The Gilds of this county were probably very numerous. A few will be reviewed under the titles of the several towns wherein they were found.

Birmingham.—The Gilds in this town are all of a special class:

Gild of the Holy Cross.—Many details are given by Mr. Toulmin Smith (*English Gilds*, 1870, pp. 239–50) respecting the authorization and subsequent formation of this Gild; but as the Ordinances themselves are not given, we have no means of defining its detailed objects.

Gild of St. John the Baptist, of Deritend.—The old formal description of Birmingham was "The Borough of Birmingham and Deritend:" the hamlet of Deritend, though in a different and adjoining parish, being a very ancient, and by no means the least important part of the borough and lordship. The Gild Ordinances are not given in detail.

Gild commonly called "Lenche's Trust," in Birmingham.—We refer to this special Gild, so-named, for the purpose of reproducing the following instructive note from *English Gilds* (p. 251):

No doubt the feoffees of William Lenche carefully avoided using the name of "Gild," after the legislative plunder which had befallen the bodies so called. But for this, the Trust would assuredly soon have been called a "Gild." There is in the British Museum, among the Harleian MSS., a curious instance of a body of feoffees formed, as far as can be made out from wills and ordinances, under circumstances very much like those of Lenche's Trust. But these feoffees having unfortunately been in too great a hurry to call themselves a "Gild," they fell, with the others, on the hapless day of the massacre of the Gilds and the plunder of their property. This case happened in Bury St. Edmund's.

The Trusts in Lenche's case were to receive rents, and apply the same—(1) to the repair of ways and bridges; (2) or otherwise to help the needy poor; (3) or to other pious uses, at discretion.

Coventry.—The Gilds of this town possess great interest.

The Gild Merchant.—The return in this case begins by stating that the Merchants of Coventry found themselves much troubled about their merchandize, being so far from the sea; and therefore got a Charter (letters patent) from Edw. III. (in 1340), for the foundation of a Gild-Merchant. This Charter, dated 20 May, recites that an inquiry had been held, and it had been found that no harm would befall Coventry, or any one, if a Gild-Merchant were founded there, with bretheren and sisteren, and a Master, and the usual powers of a Gild, including that of making Ordinances. The Ordinances so made embrace the following objects:

Chaplains shall be found, if the means of the Gild allow it: but such means shall not be so applied until the poor of the Gild have been provided for, and the other charges of the Gild have been paid. The Chaplains shall be chosen by the Master and the rest of the Gild, and shall fulfil duties as set forth in Ordinances; subject to removal for misbehaviour. If any one of the Gild is overtaken by mishap, the Gild shall advance him a free loan to trade with. In case of *sickness or old age the Gild shall maintain the sufferer*. No one charged with crime shall be taken into the Gild; and any Gild-brother falling into crime shall be put out of the Gild. The Gild shall meet every year to keep the feast of the Assumption, and to deal with its affairs. Once every quarter the Gild shall meet and have prayers said. The name of the Gild shall not be taken in vain, to back up any wrong or quarrel. On the death of any one of the Gild, chaunts shall be sung for his soul, by name and surname. If any one of the Gild dies, and is buried outside the city, the same services shall be had and done as if he had died within the city. When any one does not leave enough to pay for his burial, he shall be buried at the cost of the Gild. The foregoing Ordinances to last for ever. All the Gild shall swear to keep the Ordinances; and the Master to deal rightly with the goods of the Gild, and render an account before chosen auditors.

The property of the Gild was considerable, and throws light upon its objects, viz. tankards, and gold and silver; chalices, vestments, etc. A large annual rental from lands, houses, and rent-charges—out of this income 4 chaplains were kept. The Gild maintained 31 men and women at a heavy yearly charge. They also kept a lodging-house with 13 beds for poor travellers, with a governor, and woman to wash their feet, and all else that is needed. On the feast day the bretheren and sisteren were clad in livery, some at their own cost; others in hoods at the cost of the Gild. Their almsmen were clad in gowns and hoods by the Gild.

Gild of Corpus Christi, founded prior to 1348—probably much earlier. Further Charter by Rich. II. in 1381.—A fresh Master shall be chosen every year, who shall swear loyalty to the King and the City, and to the Gild. A chaplain; and commemoration of the dead. "If any bretheren or sisteren of the Gild falls into poverty through fire, water, robbery, or any other worldly mishap, not being brought about through his own folly, the Master of the Gild and the bretheren and sisteren shall give help, according to the means of the Gild, until better times come." A livery suit shall be worn; and torches shall be carried in procession. A yearly meeting shall be held at the Palace of the Bishop of Chester, when accounts shall be rendered, and a new Master chosen.

The effects of the Gild for church services and for processions were alike numerous and valuable, for that period.

Gild of the Holy Trinity.—Founded before 1364, probably a considerable period. There shall be two chaplains, and commemoration of the dead. Help shall be given to those who are old, or who have met with mishap. The sick shall be visited, and shall be helped. The poor shall be buried at the cost of the Gild. Lands were held under license of mortmain. Early mass shall be said, so that men may hear it before going to work. The Gild maintains 2 poor bretheren, and 1 sister.

Gild of St. John Baptist.—Of this we have no details beyond those necessary to vouch its existence.

St. Catherine's Gild.—Founded during the reign of Edward III., embodied in its Ordinances the following features:

If a member suffer from fire, water, robbery, or other calamity, the Gild is to lend him a sum of money without interest. If sick or infirm through old age, he is to be supported

by his Gild, according to his condition. No one notorious for felony, homicide, lechery, gaming, sorcery, or heresy, is to be admitted. If a member falls into bad courses, he is first to be admonished; and if found to be incorrigible, he is to be expelled. Those who die poor, and cannot afford themselves burial, are to be buried at the charge of the Gild. Mass was said every day; and there were four solemnities, or feasts, every year. The Chaplain is not to frequent common taverns.

The Master of the Gild was usually the person who had been Mayor of Coventry the preceding year. He seems to have been the Treasurer, as he was sworn to pay the arrears on quitting office, and to inspect the tenements of the So.

There were many other Gilds of interest in this famous town.

Stratford-upon-Avon.—The Gild of this town will naturally create much interest: the more so that, notwithstanding the number of writers who have examined the records of the place, it remained for Mr. Toulmin Smith to make the Ordinances of this Gild known in 1870, in his *English Gilds*, already so often quoted in this art.

Gild of the Holy Cross.—Founded at a very early period. The Ordinances quoted are those returned in January, 1389. Each of the brethren to pay 4d. a year. A wax shall be made and kept up, which shall be alight in church during mass, before the Holy Cross. Any one not paying his dues shall be fined. On the death of any Gild-member, the aforesaid wax and 8 smaller ones shall be kept alight before the body, and carried to church and afterwards set before the Cross. The bretheren shall follow every funeral—penalty for neglect one halfpenny. If any poor man, or any stranger dies, of what rank soever, the Gild shall find lights and what else is needed for decent burial. Every one shall pay yearly twopence at a feast, which shall be held in Easter week, for the purpose of cherishing brotherly love and peace. Every sister shall bring a tankard, fill it with ale, and give this to the poor; and every brother shall do the same. But before the ale is given and before the feast is begun, prayers shall be said by the bretheren and sisteren themselves. Sisteren neglecting to bring the tankard shall be fined; and for all quarrelling after the bell has sounded. Only worthy men shall be allowed to remain in the Gild. Night watches, with prayers, shall be kept round the body of the dead. Penalty on members summoned not attending. There shall be two Aldermen and 6 helpmen to manage the affairs of the Gild; and those not attending for the purpose of the bus. shall be fined. No guest or stranger shall come to the feast without leave, under penalty. No one shall take another's seat at the feast, under penalty. Help shall be given in cases of robbery and poverty.

Winchester.—This very ancient city is known to have had quite a number of Gilds, many of which probably made returns to the Writ of this year (1388); but if they did so the returns have been lost—and hence we are limited to a notice of one famous Gild only, drawn from indirect sources.

Gild of Merchants.—This important Gild existed during the reign of Rich. II., but the date of its actual foundation cannot be traced: it prob. came down from the Anglo-Saxon period; and it certainly was existing so late as 1705, when Prince George of Denmark was made a freeman of this city, and “one of the Gild of Merchants.”

The other Gilds of the place were probably mostly Craft-Gilds, for there was a large annual fair held here, known as the “Gild-Sale,” when merchants from many distant parts attended, and it contributed largely to the revenues of the city. See *English Gilds*, 1870, p. 357.

Worcester (City of).—There were in this city at an early date several Gilds, of which however the details do not appear to have been preserved.

The Merchant-Gild.—In a charter of Henry III. granted this city A.D. 1227, it is expressly set forth “that they shall have a Gild-Merchant with a hanse and other liberties and customs pertaining to the Gild.”

In the *Ordinances of Worcester*, bearing date 1467, but almost certainly only a revision of those of much earlier date, there are various references to Gilds, and sometimes to “the Gild,” which may be assumed to be the *Gild-Merchant*. Thus art. 8 provides that “the Acts of the Gild be engrossed and put in a box, of which one of the Chamberlains is to have the key. In art. 22 it is ordered that the five Crafts’ payments be more strictly kept. Under sec. 33, no craftsman may wear other livery than his own. Sec. 62 recites that whereas at some former Gild-days the commonalty have not known of the laws at those times made: hence, for the future, the articles made at each Gild-day shall be read twice at least before the Common Council of the City, and the day after before all the citizens. Art. 78 provides further that the Craft-gilds of the City shall maintain their accustomed pageants, saving the common weal of the City. Strangers entering their respective crafts must pay the fees ordered by the Wardens—both masters and journeymen. Every pageant craft shall yearly provide a cresset to be borne before the Bailiff on St. John’s Eve; and all the crafts shall be with the Bailiffs at the watch on that eve. Fees to be paid by new craftsmen.

In some city records bearing date 1671, it is stated that the citizens and inhabitants of Worcester “for the greatest part are vnited into Gilds, Fraternities, and Brotherhoods.”

Gild of St. Nicholas.—All that we now find concerning this, are the Ordinances settled in 1692, upon the base of an earlier foundation; but it would present incongruities to introduce the details here.

Gild of the Joiners and Carpenters.—This Gild obtained new Ordinances also in 1692. **Yorkshire.**—The Gilds of this extended county are of especial interest.

Beverley.—From this ancient town the three following Gilds made returns :

Gild of Corpus Christi.—This was probably the earliest of the Gilds of this town. Like that of the same name in York (to be afterwards spoken of) it was made up of both clergy and laity ; and it was to hold a yearly procession of pageants. The Ordinances begin by stating that the “solemnity and service” of Corpus Christi were begun, as a new thing, by command of Pope Urban III. [Pope A.D. 1261-4] and John XXI. [Pope 1316-34]. The Ordinances are of a more common-sense character than those of the Gild of Corpus Christi in York. Help was to be given to the bretheren falling into want. In case of quarrel, the bretheren of the Gild to use their good offices to restore harmony.

Gild of St. Mary, founded 1355.—The affairs of the Gild were to be managed by an Alderman and two Stewards, as determined by the whole body. Payment on entry 5s. and a pound of wax, or more. Yearly meeting at fit place appointed away from the church : “and there, one of the Gild shall be clad in comely fashion as a Queen, like to the glorious Virgin Mary, having what may seem a son in her arms ; and two others shall be clad like to Joseph and Simeon ; and two shall go as angels, carrying a candle-bearer, on which shall be 24 thick wax lights. With these and other great lights borne before them, and with much music and gladness, the pageant Virgin with her son, and Joseph and Simeon, shall go in procession to the church. And all the susteren of the Gild shall follow the Virgin : and afterwards all the bretheren ; and each of them shall carry a wax light weighing half a pound. And they shall go two and two, slowly pacing to the church ; and when they have got there, the pageant Virgin shall offer her son to Simeon at the high altar ; and all the susteren and bretheren shall offer their wax lights, together with a penny each. All this having been solemnly done, they shall go home again with gladness.” Fines for non-attendance. Later in the day the bretheren and susteren shall meet together and eat bread and cheese and drink ale, “rejoicing in the Lord, in praise of the glorious Virgin Mary.” Officers to be then chosen ; prayers and offerings for the dead. *The Alderman and Stewards of the Gild to visit those bretheren and susteren who were poor, ailing, or weak,* and who have not enough of their own to live upon, and assist them out of the Gild-stock at the rate of 8d. 6d. or 4d. p. week, to help their need. Cost of burial of poor bretheren, with becoming services, to be provided.

Gild of St. Elene, founded 3 May, 1378.—At the end of each year a meeting of the Gild on the feast of St. Elene. “And then a fair youth, the fairest they can find, is picked out, and is clad as a Queen, like to St. Elene. And an old man goes before this youth, carrying a cross, and another old man carrying a shovel, in token of the finding of the Holy Cross. The susteren of the Gild follow after, two and two ; and then the bretheren, two and two ; and then the two Stewards ; and after all follows the Alderman. And so, all fairly clad, they go in procession, with much music, to the church of the Friars Minors of Beverley ; and there, at the altar of St. Elene, solemn mass is celebrated, and every one of the Gild makes offering of a penny.” Later in the day they meet in the Gildhall, and there eat bread and cheese, “and drink as much ale as is good for them” ! They then choose an Alderman and two Stewards for the next year ; and these are “bound to maintain 2, 3, or 4 bedridden poor folks ; and when these die, they must bury them, and choose others in their place, and in like manner maintain them.” Lights and services for the dead, and offerings. “Any money in hand at the end of the year is spent in repairing the chapel of the Gild, and in gifts to the poor.”

There was also in this town the *Great Gild of St. John of Beverley of the Hanshouse*—a Craft-Gild. Of this we shall offer some details under HANSEATIC LEAGUE.

Hull.—Three returns were made from this ancient borough (Kingston-upon-Hull), and in each case the return embraced the original charters or deed of foundation, instead of an abstract of the Ordinances then in use, as was contemplated in the Order, and as was in all other instances returned. These being lengthy, brief abstracts only are given.

Gild of the Blessed Virgin Mary, founded 1357.—The founders were 10 men and 12 women, 9 of the latter being wives of the former. The payments (charged on the estates of the founders) were for each married couple, or for each single man and woman, 2s. 2d. per quarter ; arrears might be distrained for. New members to pay the same. The affairs to be administered by an Alderman, Steward, and two help-men. *Aid to be given to those in need, and able to work, to enable them to follow their callings.* “If it happen that any of the Gild becomes infirm, bowed, blind, dumb, deaf, maimed, or sick, whether with some lasting or only temporary sickness, and whether in old age or in youth, or be so borne down by any other mishap that he has not the means of living, then, for kindness’ sake, and for the souls’ sake of the founders, it is ordained that each shall have, out of the goods of the Gild, at the hands of the Wardens, 7d. every week ; and every one so being infirm, bowed, blind, dumb, deaf, maimed, or sick, shall have that sevenpence every week as long as he lives.” If any of these so-afflicted members could not pay

their quarterages, these were to be defrayed out of the weekly allowances to be granted as last named. *A pilgrim to the Holy Land was to be released from the quarterly payments while away.* The Gild was to meet at stated times. Any one misbehaving at any meeting, or attempting to defraud the Gild, to be punished; any one guilty of felony to be expelled, as also any one bringing discredit on the Gild. None so expelled to have any claim on the Gild. Quarrels among members to be settled by officers of the Gild, subject to appeal to whole body of members. No payment to be made on admission of second wife to Gild, the first having been a member. The Ordinances were to be read over to every new member, so that none could plead ignorance; and an oath taken.

Many modern Friendly Sos. have less efficiently drawn rules than are embodied in the deed of constitution of this model Gild of the Middle Ages.

Gild of Corpus Christi, founded 1358.—This Gild was to consist of men and women, who were to pay 10s. each year (by half-yearly payments), and afterwards 5 farthings a week. Members in arrear to be expelled. The affairs to be administered by Alderman and Chamberlain, with 8 discreet men to help them. Help to be given to enable bretheren to follow their callings; also help to the afflicted at the rate of 1s. 2d. p. week (the ailments enumerated being nearly the same as in the last-named Gild). Burials to be attended. Ordinances to be read over to new members.

It seems that the original constitution of this Gild had been amended in several particulars, viz.—1. That all the bretheren and sisteren were to meet annually, or pay a pound of wax. 2. That no money belonging to the Gild should ever be risked in trading beyond sea, unless by special grace, and then two sureties must be given. 3. Sons and daughters of bretheren of the Gild might be admitted without payment; all others coming in to pay three pounds of silver, unless it be by special grace.

Gild of St. John Baptist (date of foundation lost).—Here the subscription was 2s. p. year. An Alderman and two help-men to conduct the affairs of Gild; punishment for attempts to defraud. Meeting of the Gild; penalty for misbehaviour. Help to the afflicted, to be afforded by weekly payments from the members; 5s. to be given to each of the afflicted at the feast of St. Martin in winter, to get a garment. A deduction if necessary in allowances to bring them within the income. Burials and burial services to be attended. Any man marrying a sister of the Gild, and wishing to become a member, to pay 6s. 8d. Any brother taking an *apprentice*, the apprentice to pay, or the master for him, a pound of wax. Ordinances to be read to new-comers. The Gild had xx.*lib.* in hand.

York.—The Gilds of this city appear to present features distinct from any others in the kingdom at this date, and some of them will in consequence be cited in more detail:

Gild of the Lord's Prayer.—As to the beginning of this Gild, be it known that, once on a time, a play, setting forth the goodness of the Lord's Prayer, was played in this city; in which play all manner of vices and sins were held up to scorn, and the virtues were held up to praise. This play met with so much favour that many said, "Would that this play could be kept up in this city, for the health of the souls and for the comfort of the citizens and neighbours." Hence, the keeping up of that play in times to come, for the health and amendment of the souls as well of the upholders as of the hearers of it, became the whole and sole cause of the beginning and fellowship of the bretheren of this brotherhood. And so the main charge of the Gild is to keep up this play, to the glory of God, the maker of the said prayer, and for the holding up of sins and vices to scorn. And because those who remain in their sins are unable to call God their father, therefore the bretheren of the Gild are, first of all, bound to shun company and businesses that are unworthy, and to keep themselves to good and worthy businesses. And they are bound to pray for the bretheren and sisteren of the Gild, both alive and dead, that the living shall be able so to keep the Gild that they may deserve to win God's fatherhood, and that the dead may have their torments lightened. Also, they are bound to come to the burial services of the dead bretheren and sisteren of the Gild. And if any one [member] does not leave enough to meet the cost of such services, the rest of the bretheren shall bear that cost. And if any brother dies, and is buried away from the city, the bretheren shall hold services for him within the City of York. It is then ordained that the Gild will not help any man who rushes rashly into law or quarrel. "And because vain is the gathering of the faithful without some work of kindness is done, therefore the bretheren have made this Ordin.," which was that bretheren should be helped in the cases of *robbery, fire, false imprisonment, or other mischance*. One candle-bearer and seven lights, "in token of the seven supplications in the Lord's Prayer," were to be provided for feast days. A table was to be kept showing the use of the Lord's Prayer. Whenever the play was played, the Gild was to ride with it through the streets, clad in livery; and some were to keep order till the last. An annual feast was to be held, officers chosen, and accounts rendered. New members were to be pledged to a right life. The founders were too wise to pretend to foresee everything, so they ordained that the proposing of new Ordinances was not to be deemed treason. Divine service was to be held once a year specially, and ordinarily once every six weeks. The Gild had no lands, but only its play-properties, and a chest to keep them in.

There is a reference to this *Gild of the Lord's Prayer* in a hitherto unpublished tract of Wyclif, written, it is presumed, not later than 1378, ten years before the period with which we are dealing. He is arguing that the Scriptures ought to be translated into English. He notes that St. Jerome translated the Bible into Latin; "also þe worþy reume of fraunce, not-wiþ-standinge alle lettings, haþ translatid þe bible, & þe gospels, with oþere trewe sentensis of doctours, out of lateyn in-to freynsch." He asks, "Why shulden not englijsche men do so?" If English lords can get the Bible in French, why not in English? "And herfore freris han tauht in Englonde þe paternoster in englijsch tunge, as men seyen in the play of York, and in many oþere cuntreys." In this connexion, it may safely be assumed that the *Gild of the Lord's Prayer* exercised no small influence over the early Reformers of this country; and thus contributed in some degree to promote that institution which eventually subverted so many of the Gilds themselves. We have quoted from a volume in course of preparation by Mr. F. D. Matthew for the Early English Text Society, which will appear in that excellent Society's issue for 1879.

Gild of St. John Baptist.—The first charge of this Gild is to cherish brotherly love. And if any brother falls into want, so that he cannot maintain himself, he shall have, *for kindness' sake*, sevenpence every week from the Gild. Service shall, once a year, be celebrated by a chaplain, for all the brethren, living and dead. No brother shall be so bold as to do wrong to any one, thinking that the Gild will back him up. If he does, he shall be put out of the Gild for ever. Every brother binds himself that, if he is wroth with a brother, without reasonable cause, he shall pay, the first time a pound of wax; the second time two pounds of wax; and if he forgets himself yet a third time, he shall do what the Wardens of the Gild, with 12 brethren, shall ordain, or be put out of the Gild. The affairs of the Gild shall not be told to any one unless, for the good of the Gild. The Gild has no goods, other than what are raised by yearly payments.

Gild of Corpus Christi.—This was a famous Gild also existing in this city. The date of its origin appears to have been 1408; but it will be convenient to speak of it here. There was to be a procession every year, and 6 priests were to be annually chosen for masters. New members were not to be required to take any oath, but they were required to have their consciences charged to make payments to the Gild. Services were to be held for the living and the dead. Laymen were to pay, and might pray, but they were to have no voice in the management of the Gild. Lights were to be borne at the festivals; no children or servants were to be allowed membership. An account of the goods of the Gild was to be given by the old Masters to the new.

This Gild became very famous, and had in a few years enrolled nearly 15,000 members. In the procession held in 1415 no less than 96 separate crafts joined; and no less than 54 distinct pageants were prepared and presented in the procession by these crafts: of these 11 had their subjects taken from the Old Testament; the remainder from the New. Ten crafts made the show more glorious, by bearing a vast number of blazing torches.

There were no other returns from this city; although there is fair reason to suppose that numerous other Fraternities existed in this city at this date.

See general remarks under 15th Century.

1389.—This year there was enacted the 13 Rich. II. Stat. I. c. 8, whereby the Stat. of Labourers of the preceding year was confirmed, and it was made clear that the fixing of the prices of labour at this juncture (as also in 1349) had no reference to the action of the Gilds, but really had in view the scarcity of labour and the high price of food. The preamble of the Stat. of this year says:

... But forasmuch as a man cannot put the price of corn and other victuals in certain, it is accorded and assented, that the Justices of the Peace in every county in two of their Sessions to be holden betwixt the feast of Easter and St. Michael, shall make proclamation by their discretion according to the dearth of victuals, how much every Mason, Carpenter, Tiler, and other Craftsmen, Workmen, and other Labourers by the day, as well in harvest as in other times of the year, after their degree shall take by the day, with meat and drink or without meat and drink, between the two Sessions before said, notwithstanding the Stat. thereof heretofore made, and that every man obey to such proclamation from time to time as a thing done by Stat.

14th Century.—It was during this century that the civil strife between the wealthy classes—the Patricians—and the manufacturing traders, *i.e.* the Craftsmen, raged with almost relentless fury in many parts of Europe. Thus at Magdeburg, in 1301, 10 Aldermen of the Craft-Gilds were burned alive in the market-place. After the Cologne weavers had in 1371 lost the "weavers' battle" against the ruling families, 33 weavers were executed, Nov. 21; on the day after also, houses, churches, and monasteries were searched; all who were found were murdered; lastly, 1800 of them were exiled, with their wives and children; and their hall, "a palace," was demolished. The exiled found a reception in Aix-la-Chapelle, where they helped considerably to raise their trade. Further examples might be enumerated.—Note by Brentano, *Preliminary Essay*, 1870, p. cxi.

1425.—We have in the early part of this art. [*Special Gilds*] spoken of the supposed Gild origin of Freemasonry. This asso. was more particularly traced in the Craft-Gilds. By 3 Hen. VI. c. 1, it was enacted as follows:

Whereas by the yearly congregations and confederacies made by the Masons in their general chapters [and assemblies] the good course and effect of the Statutes of Labourers be openly violated and broken, in subversion of the law and to the great damage of all the commons: Our said Lord

the King, willing in this case to provide remedy, the advice and assent aforesaid, and at the special request of the said Commons, hath ordained and estab., that such chapters and congregations shall not be hereafter holden; and if any such be made, they that cause such chapters and congregations to be assembled and holden, if they thereof be convict, shall be judged for felons; and that all the other masons that come to such chapters and congregations be punished by imprisonment of their bodies, and make fine and ransom at the King's will.

1434.—The Emperor Sigismund (of Germany), in his *Secular Reformation*, complains that membership in the Gilds had now to be "grossly bought"; that in the Town Council the Crafts followed with partiality their own advantages only, to the public detriment; and he believed that the only remedy would be their abolition. That he did not stand entirely alone in this belief will be seen from what soon follows.

1436-7.—A petition was presented from the H. of Commons to the King (Hen. VI.) declaring that Craft-Gilds abused the privileges granted to them by enacting Ordinances hurtful to the common profit of the people. The substance of this petition forms the recital of the Act wherein and whereby it was sought to remedy the defects complained of. This was the first of a series of enactments intended to limit the powers and privileges of the Gilds.

The 15 Hen. VI. c. 6 [1436-7], recited and enacted as follows:

Item, Whereas the Masters, Wardens, and people of the many Gilds, Fraternities, and other Cos. incorp., dwelling in divers parts of the realm, oftentimes by colour of rule and governance and other terms in general words to them granted and confirmed by Charters and Letters Patent of the King's progenitors, make among themselves many unlawful and unreasonable Ordinances, as well of such things whereof the cognisance, punishment, and correction all only pertaineth to the King, Lords of Franchises, and other persons, and whereby our said Sovereign Lord the King, and other, be disherited of their profits and franchises, as of things which sound in confederacy for their singular profit and common damage to the people:

The same our Lord the King, by the advice and assent of the Lords Spiritual and Temporal and at the prayer of the Commons aforesaid, hath ordained by authority of the same Parl., that the Masters, Wardens, and people of every such Gild, Fraternity, or Co. incorp. betwixt this and the Feast of St. Michael next ensuing, shall bring and cause all their *Letters Patent to be Regis. of Record, before the Justices of the Peace in the Counties, or before the chief governors of the said Cities, Boroughs, and Towns where such Gilds, Fraternities, and Cos. be.* And moreover hath ordained and defended, by the authority aforesaid, that from henceforth no such Masters, Wardens, nor people make nor use no Ordinances which shall be to the disherison or diminution of the King's franchises or of other, nor against the common profit of the people; nor none other Ordinances of charge, *if it be not first discussed and approved for good and reasonable; admitted by the Justices of the Peace, or the Chief Governors aforesaid, and before them entered of Record, and after by them revoked and repealed, if it be found and proved by them not lawful, or not reasonable;* and that upon pain to lose and forfeit the force and effect of all the articles comprised in the said Writs and Charters by which they might make any charters among themselves; and moreover to lose and pay x li. [£10] to the King for every Ordinance that any of them doth make or use to the contrary, as often as he shall be of that, by due process and lawful manner, convict of record before any of the said Justices of Peace, or Chief Governors of Cities, Towns, and Boroughs, and this Ordinance shall endure as long as it shall please our said Sovereign Lord the King.

Herein seems to have originated the practice of enrolling Rules and Regulations with the Clerks of the Peace—a practice existing with Friendly Sos. in our own time. (See 1503-4.)

1477.—The Fullers and Dyers Co. was one of the 12 mysteries of the incorp. Gilds of *Newcastle-upon-Tyne*. The Order had numerous Rules dated 6 May this year, one of which shows the spirit of the age: "No Scotchman born shall be taken as apprentice, nor any such set to work, under a penalty of 20s.; half thereof to go to the So. and half to the support of Tyne Bridge." The Gild was in existence in the early part of this (19th) century.

14th and 15th Centuries.—Pike offers the following remarks upon the Gilds of this period:

Not the least curious feature in the hist. of our towns during this period [1348-1485] is the persistence of the Gild Social or Religious, in its old form and in full vitality, while the Craft-Gild though still existing was losing its orig. character, and showing signs of old age. Reference has already been made to the Ordinances of various Gilds returned to Parl. in the year 1388. Later records show not only that the Social or Religious Gilds continued to be an important element in town life, but that they were sufficiently popular to obtain new endowments and a new constitution, as late as the latter half of the 15th century. Though there was much in their traditions which was evil, there was much in their practice which was good. They are a connecting link between that spirit of partizanship, with all the attendant lawlessness, which prevailed before the Conquest, and those asso. for mutual aid and charity which are the pride of the 19th century. Of the ill which they did enough has already been said; it is but fair to say a little of the benefits which they conferred, at any rate in later times.

15th Century.—During this century, although prob. not confined to it, we have evidence of the process of enrolling the Gilds in the Commissary Courts. May this not have

been in consequence of the Act of 1436-7 already cited? Mr. Henry Charles Coote, F.S.A. (a competent authority), is of opinion that "this Regis. was not ministerial only, but that in each case there was either expressly or by implication a preliminary confirmation of the Rules by ecclesiastical authority. In other words, the Rules were *certified*, to use a term of our own time, which is exactly applicable." When we come to consider the object of such enrolment in these Courts, we have to remember that at this date in our history, the country was ruled very much by Ecclesiastics, and the Canon Law; and in all cases of the infraction of an oath, or solemn promise to pay, the Ecclesiastical Court could enforce performance. Here then is prob. the explanation of the Commissary Courts being selected for the purposes of enrolment. The rules themselves imply that the object and intention of this confirmation and regis. was to facilitate the suing in the Ecclesiastical Court for the quarterages and penalties contained in them. Thus in the *Glovers Gild* is the following:

Also it is ordeyned that if any brother of the same fraternitie of the crafte of glovers be behynde of paiement of his quarterage by a yere and a day, and his power the same quarterage to paie, and if he that do maliciously refuse, that thenne he be somened tofore the official [i.e. the official of the Consistory of London], and by the Wardens for his trespass and rebelness of such manner, duly for to be chastised or ponyssed, and to paie the fine aforesaid, and her (i.e. their) costs of the Court, as in here [their] account tofore all other bretheren of the same craft wellen answer.

The Rules of the *Shearmen* [Cloth-workers] *Gild* provide that if a brother "breke his othe he shall be punysshed by the lawe of our moder holy chirche," and "that the said wardens do make certification unto the officers of the Bishop of London . . . to the intent that they by the laws spiritual compel the said person so being rebel and disobedient for to pay and satisfy the said fine."

And the rules of the brotherhood of *St. Katherine* in the same strain provide that "the names of all persons, transgressors and rebels, being bretheren of the fraternity, be presented unto the judge ordinary of the Lord Bishop of London."

Fire Ins. Gilds.—During the first half of this century there existed in *Schlegswig-Holstein* an inst. designated *Brandgilden*, originating prob. out of an earlier fraternal asso. [Frith Gilds?] existing in the middle ages and known as "Bruderliche." These latter were designed to protect the property of the members generally; and were frequently under the protection of the municipal corporations. The Brand-Gilden appear to have been a modification of the former, and to have been a State or Municipal Asso. for local mut. Fire Ins. only. See 1585. [INS., ORIGIN OF.]

1503-4.—There was enacted 19 Hen. VII. c. 7, which recited the 15 Hen. VI. c. 6 [1436-7], already quoted, and that this Act had now expired; and it enacted that Corporations should not make or enforce any Ordinances without the approbation of "the Chaunceller, Tresorer of Englonde & Cheffe Justices of ether Benche, or thre of them; or before bothe the Justices of Assises in ther cyrcuyte or progresse in that shyre wher suche actes or ordinaunces be made, upon the peyne of forfeiture of xl li. for every tyme that they do the contrarie." No orders were to be made by corporations to restrain suits in the King's Courts.

This last regulation, it is clear, was aimed at the usual regulations in Gilds of settling all disputes amongst themselves.

1530-1.—By 22 Hen. VIII. c. 4, it is recited that the Act of 1503-4 was evaded: "Sithe whiche tyme dyvers Wardens and Felowshippes have made Actes and Ordinaunces that every prentice shall paye at his firste entre in their comon halle to the Wardens of the same fellowship some of them xls. some xxxs. some xxs. some xiijs. iiijd. some vjs. viijd. some iijs. iiijd. after their owne senester myndes and pleasure contrarie the menyng of the Acte aforesayd and to the great hurte of the Kynges true subjectes puttyng their Childe to be prentyse." Whereupon it was enacted that the fees on apprenticeship should not hereafter exceed ijs. viid.; nor for his entry as a freeman iijs. iiijd., upon pain of forfeiture of xl li.

1536.—By 28 Hen. VIII. c. 5—*An Acte for avoydyng of Exaccyons taken upon Prentesis in the Cyties, Borowghes and Townes corporatt*—the Stat. of 1530-1, and that of 1503-4, are recited, as also the evasion of these; it is further recited that Oaths were imposed on Freemen by Cos. in fraud of the said Acts; and then enacted that no oath shall be imposed by Cos. in restraint of keeping shops by Apprentices when made free; nor fees taken for freedoms beyond those limited in Stat. 22 Hen. VIII. c. 4.

1544.—The members of the twelve great City Gilds gave an illustration of the great opulence to which they had attained at this date by lending to the King (Hen. VIII.) the sum of £21,263 6s. 8d. towards providing means for carrying on his wars in Scotland, on the security of lands mortgaged to them. This, if a voluntary act—which it prob. was not—turned out to be very unwise, inasmuch as it excited the cupidity of the Crown, and thus led to the shameless acts of confiscation which too speedily followed.

It is to be remarked that this is one of the earliest instances of Public Loans on record. [LOTTERIES; NATIONAL DEBT; PUBLIC LOANS.]

Brentano, reviewing this event and those which followed, says:

From this period the extracting of money from the Trading Corporations became a regular source of supply to Gov. In most manifold ways Elizabeth, and afterwards James and Charles, contrived to screw out of the Cos. their wealth. This was especially managed by the granting of patents for

monopolies, and for the oversight and control of different trades, to courtiers, by which the public suffered quite as much as the Cos. During the Civil War, too, and the Commonwealth, the Cos. had to suffer great exactions and oppressions.

1545.—By Stat. 37 Hen. VIII. c. 4—*An Acte for Dissolucon of Colledges*—it was recited that diverse Colleges, Free-chappelles, Chauntries, Hospitalles, Fraternities, Brotherhoods, *Guylds*, and Stipendary Priests, “having perpetuity for ever,” had misapplied the possessions thereof in various ways; and it was then exacted that all the same be dissolved, and the proceeds applied for supporting the King’s expenses in wars, etc., and for the maintenance of the Crown, etc.

This measure—one of the early consequences of the *Reformation*—does not seem to have been entirely enforced until the commencement of the following reign [see 1547]. The Gilds of London appear to have escaped its operations on the ground that they were Trading Cos. We suspect the loan of the preceding year may have had some relation to this exemption.

1547.—By 1 Edw. VI. c. 14—*An Acte wherby certaine Chauntries, Colleges, Free Chapells, and the Possessions of the same be given to the King’s Ma^{ty}*—it is recited that superstition and error in Christian religion “hath byn brought into the myndes and estimacon of men by reasone of the Ignorance of their verie trewe and perfecte salvacon throughe the deathe of Jesus Christ, and by devising and phantasinge wayne opynions of Purgatorye and masses satisfactorie to be done for them which be departed, the which doctryne and vayn opynion by nothing more is mayntayned and upholden then by the abuse of trentalls, chauntries, and other provisions made for the contynuance of the said blyndness and ignorance.” It is then further recited that the revenues thereof had better be applied to schools, colleges, etc. The Act of 1545 is recited; and it is finally enacted, That all Colleges, etc., existing within 5 years preceding this Parl. and not in the actual possession of the late or present King (except where exempted by the King’s Commission), be now declared in the actual seisin and possession of the King, with their lands, and revenues. *And all Brotherhoods or Gilds and their possessions*, except Cos. of Trade, were vested in the King. Commissioners were to be appointed under the Great Seal to carry out the purposes of this Act.

The provisions of this Act, which were very sweeping, secured the practical annihilation of all the Gilds except those of the merchant and municipal classes. The King’s Commissioners entered upon their task with avidity. In the questions they addressed to the towns were embraced the following:—1. Whether or not they had any peculiar Brotherhood or Gild within their Corporation? 2. Whether they had any College, Chantry, Chapel, Fraternity, Brotherhood, or Gild within the same? . . . 3. Whether they possessed any and what jewels, goods, ornaments, chattels, and other things appertaining to any Chantry, etc.? And lastly, whether they had any other yearly profits or advantages (exclusively of those already mentioned) which ought to bring them within the Act? Further, in order to insure correct returns to the above queries, the Commissioners were empowered to survey all such Mysteries, Crafts, and Corporations, and to inspect all evidences, compositions, books of accmpts, and other writings which they might possess.

Strype, in his ed. of Stow (vol. ii. p. 336), says, “This was a great blow to the Corporations of London; nor was there any other way for them but to purchase off these rent-charges, and get as good pennyworths as they could of the King; and this they did in the 3rd of Edw. VI. by selling other of their lands to enable them to make these purchases. This cost the Cos. £18,700, which possessions, when they had thus cleared again, they employed to good uses, according to the first intent of them, abating the superstition.”

The Provincial Gilds were not quite extinguished by the operation of this Act, and the confiscation it sanctioned. Some of them at least continued to hold their meetings for purposes of conviviality and mut. assistance. Blomefield (*Hist. of Norfolk*) mentions several which survived—one of these, in a Norfolk village, whose lands were seized, retained their Gildhall until 1650, when the effects were sold. These included 30 lbs. of pewter vessels; 92 lbs. of lead; 4 spits weighing 169 lbs.; a metal pot weighing 44 lbs.; 2 pots of brass weighing 89 lbs.; and a brass pan weighing 9 lbs.—“clear proofs (as has been remarked) of the jolly proceedings of the Gilds.” Some of the lesser Gilds were indeed so poor as not to have a room of their own; but most of them, in towns and even villages, had their Gildhall.—Q. R. vol. cxvi. p. 323.

1685.—We have again to turn our attention to the Continent of Europe, and more particularly to the North German States. We have already [under date 15th Century] in this art. spoken of the existence of early fraternal asso. designated *Bruderliche*, which we take to have been an adaptation of Frith-gilds to the common purposes of protecting the lives and property of their members. These were existing in Schleswig-Holstein in the early part of the 15th century under the altered designation of *Brandgilden*, and appear at this date to have taken the shape of local Mutual Fire Ins. Asso., on what is now known as the State or Municipal plan. These early asso. operated under the authority of regularly drawn Ordinances: some stipulating for payment by the insured of instalments by way of assessment, for the purpose of creating an indemnity fund; others merely required the contribution of relief in kind. The oldest of these asso. now existing appears to be the *Neuendorfer Mobiliargilde*, founded 1585. We take this to mean the Gild for the Ins. of movable property estab. at Neuendorf.

In the City of *Hamburg* there were some of these asso. existing, one of which seems to have taken the designation of the *Feuer Contract* [Fire Contract] in 1591. This was one (if not the first) of the earliest distinct Fire Ins. Asso. of which we have any knowledge. [FIRE INS., HIST. OF.] [HAMBURG.] [PRUSSIA.] [SCHLESWIG-HOLSTEIN.]

Of the *Brandgilden* founded in the ancient Duchy of *Schleswig-Holstein* in the 17th century, there are still existing 7; the most important being that of the nobility—*Adelige Brandgilden*.

16th Century.—The Reformation (of this century) shook the whole system of Gilds to its foundation; and this was especially the case with the Religious Gilds of the laity, and the Gilds of the Kalenders. "In England (says Madox, *Firma Burgi*, 27) these Religious Gilds have been judged to be founded in superstition;" and it was the same in all countries in which the Reformation gained ground. The Gilds were therefore abolished in all Protestant countries; but not on the Continent, as in England, in favour of the private purse of the King and his courtiers. On the contrary, we see in Northern Germany and in Denmark, the property and income of these Gilds delivered everywhere, according to the intention of the founders, to the common treasury for the Poor, to Poor-houses, Hospitals, and Schools.—*Brentano*, p. xc. [POOR.]

1628.—Blomefield, in his *Hist. of Norfolk*, mentions a Gild which was "erected" at *Atleburgh* in that county, at which on Midsummer-day, 1630, above 2000 of the country folks were hospitably entertained. It seems probable that what we at this day know as country fairs, with their shows and gaudy canvas paintings, may be but degenerated survivals of the "shows" and "pageants" formerly the accompaniments of Gild Feasts.

1716.—The *Courant* of 7 July contained the following advertisement:

For the continuance of the Mutual So. the ann. feast of the fraternity of St. James [? St. John's] at Clerkenwell will be held as usual on Wednesday 25th inst., at Jerusalem Hall, within the said parish. The sermons to be preached by the Rev. Mr. Hendley. Prayers will begin at 10 o'clock exactly. Tickets may be had at the Jerusalem Tavern on Clerkenwell Green on or before Saturday the 21st inst., but after that day none are to be delivered.

N.B.—Stewards are appointed for the year ensuing.

1722.—Mr. Alex. Pennecuik, "Burgess and Guild Brother"—a well-known literary man of that period—compiled *The Hist. of the Blue Blanket: or, Craftsmen's Banner; containing the Fundamental Principles of the Good Town of Edinburgh, with the Powers and Prerogatives of the Crafts thereof*. This little book, which has passed through several ed. [2nd 1780, another 1832], is of considerable general interest; but it contains nothing throwing any light upon the phase of the subject now under investigation.

1694.—In our art. FRIENDLY SOS., under this date, we have shown how the Gild of Fellowship Porters in Edinburgh became united with the So. of Trone-men in the same City, and so took the form and shape of an ordinary Friendly So., not, however, without further changes in 1738, which will be found fully detailed in the same art. There can be no reasonable doubt that many of the early Gilds have undergone similar transformation: and hence have not died out, but simply become modernized.

1742.—There was pub. at Reading: *A History of the Brotherhood or Guild of the Holy Ghost in the Chapel of the Holy Ghost, near Basingstoke, in Hampshire, by Samuel Loggon*, 8vo.

1794.—The Rep. of a Committee of the Ho. of Commons, to which had been referred the petitions of the Wool-combers of the West of England, complaining of certain machines constructed for the combing of wool, contains the following: which indicates a second transformation—the first having been from a Gild into a Friendly So.; the next is from a Friendly So. into a Trades Union Asso.

If Wool-combers out of work, by going into some county, where the wool is not all worked up, cannot get employment, they assist at the hay and corn harvest; and if all these fail they have recourse to their Clubs. The Clubs are supported from a contribution of every Wool-comber (who is willing to be a member of any Club) according to the exigencies of their affairs. The one end of it is to enable the Wool-comber to travel from place to place to seek for employment when work is scarce where he resides; and the other end is to have relief when he is sick, wherever he may be; and if he should die, to be buried by the Club; and it is necessary for him to entitle himself to be relieved by these Clubs, to have a certificate from the Club to which he belongs, that he has behaved well in and to the wool-combing trade, and that he is an honest man; but if he defrauds anybody, he loses his claim to that certificate, and to the advantage belonging to it.

Here was a practical means of enforcing good moral conduct, which was so essential a feature in the early Gilds.

1821.—A pamph. by Mr. Gavin Burns, pub. this year, and which will be found quoted in some detail under FRIENDLY SOS., shows almost conclusively how the F. Sos. of Scot. had descended from the Trade Gilds.

1837.—There was pub.: *The History of the Twelve Great Livery Cos. of London; principally compiled from their Grants and Records. With an Historical Essay, and Accounts of each Co.; its Origin, Constitution, Government, Dress, Customs, Halls, and Trust Estates and Charities; including Notices and Illustrations of Metropolitan Trade and Commerce, as originally concentrated in these Sos.; and of the Language, Manners, and Expenses of Ancient Times; with Attested Copies and Translations of the Cos. Charters*. By William Herbert, Librarian to the Corp. of London. 8vo., 2 vols. Those who desire to follow up the subject will find much here to aid them.

1843.—There was pub. in Edin.: *A Report, etc., with an Account of the Speeches Delivered, and of the Gild Premis. Awarded for the Cleanest and Tidiest Kept Houses. Edin. 21 October, 1842. And an Appendix containing various Papers on the Present Condition of the Working Classes of the Community, and its Possible Improvement.* Edited by the Rt. Rev. Bishop Gillis.

1849.—There was pub. this year anon. a pamph: *Gild Reform Movement. Also The Church of our Fathers, as seen in St. Osmund's rite for the Cathedral of Salisbury, etc., 2 vols. and continuation.* By the Rev. Canon (Daniel) Rock, Roman Catholic Bishop at Liverpool. From this we have quoted in the preceding article.

1855.—There was pub.: *A Dissertation on the Pageants or Dramatic Mysteries anciently performed at Coventry by the Trading Companies of the City, and other Municipal Entertainments of a Public Nature.* A work of very considerable interest. See 1870.

1866.—Of one of the newest description of Gilds—yet probably descended from some of the very oldest—we may take Mr. Dilke's account [*Greater Britain*, vol. i. p. 265] of those flourishing in San Francisco at this date:

In the course of my wanderings in the Golden City, I lighted on the house of the Canton Company, one of the Chinese Benevolent So., the others being those of Hong Kong, Macao and Amoy. They are like the New York Immigration Commission and the Lond. "Société Française de Bienfaisance" combined; added to a theatre and joss-house, or temple, and governed on the principle of such clubs as those of the "Whites" or "Greens" at Heidelberg: they are in short Chinese trades unions, sheltering the sick, succouring the distressed, finding work for the unemployed, receiving the emigrants from China when they land, and shipping their bones back to China when they die.

We have since had personal opportunity of ascertaining how well this modern Gild system works in California.

1867.—This year there was incorp. in the State of New York, the *New York Underwriters Gild*, which was to be constituted by the combination of a number of existing Fire Ins. Offices taking risks in common, and subscribing to a common fund. It was in fact a Re-insurance Co. carried on for the common benefit of the contributing Cos., which were not to be less than five. Why the designation of "Gild" was adopted does not appear; but the fact probably bore relation to the existence of Fire Ins. Gilds in the North of Europe.

1870.—In Russia Trade-Gilds are very numerous. No man indeed—nobles excepted—can live in Moscow save by gaining a place in one of the recognized Orders of So.—in a Tsek, a Gild, or a Chin. A Tsek is an asso. of craftsmen and petty traders, such as the Tailoring Tsek, the Cooking Tsek, and the Peddling Tsek; the members of which pay a small sum of money, elect their own elders, and manage their own affairs. The Elder of a Tsek gives to each member a printed form, which must be countersigned by the police not less than once a year. A Gild is a higher kind of Tsek, the members of which pay a tax to the State for the privilege of buying and selling, and for immunity from serving in the ranks. A Chin is a grade in the public service; parted somewhat sharply into 14 stages—from that of a certified collegian up to that of an acting Privy Councillor. A peasant might enter a Gild if he could pay the tax; but the impost is heavy even for the lowest Gild; and a man who comes into Moscow in search of work, must seek a place in some cheap and humble Tsek. He need not follow the calling of his Tsek—a clerk may belong to a Shoemakers' Tsek, and a gentleman's servant to a Hawkers' Tsek. But in one or other of these societies a peasant must get his name inscribed, and his papers signed, under penalty of being seized by the police, and hustled into the ranks.—*Hepworth Dixon's Free Russia*, vol. ii. p. 184.

In these regulations we discern many points of resemblance to the Trade-Gilds of this country, more especially to those of Lond. But Russia has also a system of Social Gilds in many respects very closely resembling our own early Gilds; these Asso. are known as Artels. They also are of ancient origin. Mr. Dixon says: 'These early Artels had very few art. of asso.; and the principal were—that the members formed one body, bound to stand by each other; that they were to be governed by a chief, elected by general suffrage; that every man was appointed to his post by the Artel; that a member could not refuse to do the thing required of him; that no one shall be suffered to drink, swear, game, and quarrel; that every one should bear himself towards his comrade like a brother; that no present should be received unless it were shared by each; that a member could not name a man to serve in his stead, except with the consent of all. In after times these simple rules were supplemented by provisions for restoring to the members' heirs the value of his rights in the common fund. In case of death, these add. rules provided that the subscriber's share should go to his son, if he had a son; if not, to his next of kin, as any other property would descend. So far the estate was held to be a joint concern as regards the question of use, and a series of personal properties as regards the actual ownership. All these City Artels took the motto of "Honesty and Truth." An Artel, then, was in its origin no other than an asso. of craftsmen for their mutual support against the miseries of city life, just as the Commune was an asso. of labourers for mutual support against the miseries of country life. Each sprang in its turn from a sense of the weakness of individual men struggling with the hard necessities of time and place.

Another use of these Artels we have shown under FIDELITY GUARANTEE ASSO.

The Commissioners appointed under the Royal Commission on Friendly Soss. this year, in their 4th Rep. (pub. 1874) enumerate a number of Friendly Soss. existing around the eastern coasts for the purposes of providing relief in the case of shipwreck, combined in some cases with other benefits, and they remark hereon :

619.—It is curious to notice that this practice of local mut. ins. against shipwreck and loss by sea prevails on the very same coast, and in one case in the very same locality, where, under the old Gild form, it was prevalent 500 years ago. Two Shipwreck Soss. will be observed to exist at the present day in the town of Lynn in Norfolk. In Mr. Toulmin Smith's "English Gilds" three out of 12 Lynn Gilds (those of St. Thomas of Canterbury, St. Leonard and the Young Scholars), whose Ordinances are given, have a provision for relief to poor brethren falling into poverty through "losse of the se."

There was pub. this year by the Early English Text So. : *English Gilds. The Original Ordinances of more than One Hundred Early English Gilds, etc. Edited by the late Toulmin Smith; with an Intro. and Glossary, etc., by his daughter Lucy Toulmin Smith. And a Preliminary Essay in 5 parts, On the Hist. and Development of Gilds, by Lujó Brentano.* From this work we have quoted extensively in the preparation of this art.

1871.—Mr. Henry Charles Coote, F.S.A., read before the London and Middlesex Archæological So. a paper : *On the Ordinances of some Secular Gilds of London, 1354 to 1496.* This paper is pub. in vol. iv. of the Trans. of that So., and has already been referred to in earlier parts of this art. The Ordinances referred to are 6 in number—4 relating to secular Gilds in London, and 2 to Religious Fraternities in Germany. These important records were discovered by Mr. J. R. Daniel Tysen, F.S.A., among the records of the Court of the Commissary of London. These have been spoken of in some detail under 15th century.

Same year, in the *Revue des Deux Mondes* of 1 Dec., there appeared an elaborate article from the pen of M. Gaston Boissier, under the general title of "Etudes de mœurs Romaines sous l'Empire ;" this particular section bearing the designation *Les Associations ouvrières et charitables dans l'Empire Romain.* If any person had remained in doubt as to the immediate Roman origin of the Gilds in this country, the perusal of this article must, we think, effectually remove it. The absence of what we may fairly term the Ins. element—except as to Burials, which are most elaborately provided for—from the Roman Gilds here reviewed is a noticeable feature ; and in this one respect we think the Anglo-Saxons did really amend them. We are indebted to Mr. Walford Selby, of the Public Record Office, for drawing our attention more particularly to this art.

1872.—Mr. J. M. Ludlow pub. : *Gilds and F. Soss. : being the Substance of two Lectures delivered at the Working Men's College on April 20 and 27, 1872.* The author, as might be expected, brought a good deal of learning as well as sympathy to bear upon his subject.

1873.—Mr. John Yeats, LL.D., read before the Society of Arts a paper, *Gilds and their Functions*, wherein an excellent summary of the history of the Gilds, and the important part they have played in connexion with our commerce and industrial arts, is furnished.—*Journ. of the So.* vol. xxi. p. 178.

This same year there was read before the London and Middlesex Archæological So., by Mr. J. Holt, a paper bearing the title : *Societies for the Regulation of Trade in England and Germany* ; wherein the similarity in the customs of our modern Friendly Soss. with those of the ancient Gilds is pointed out. This paper was afterwards issued in pamph. form with notes by Mr. W. E. Brabrook, F.S.A.

1879.—In the City of Vienna, this year, there were a large number of Gilds of the Industrial Order (Craft-Gilds) in operation, as deputations from "over 70" took part in the processions forming part of the ceremonies on the occasion of the celebration of the Emperor and Empress's silver wedding.

Revival of Gilds.—In the preceding review we have traced not only the origin of Gilds, but their transformation and decline. We cannot claim for this article that it is exhaustive. The inquiry is a very extended one ; and it has been our province to deal with the provident rather than the political or municipal aspect of Gilds. The proportion which have died out, as against those which have gone through the process of transformation, is a point very difficult to determine. Of the Gilds of the City of London, which we have seen took, at a very early period, municipal form, the facts are as follows : 76 still survive, 73 of which continue to take fees for admissions to freedom ; 36 have halls of their own—although many were destroyed by the fire in 1666 ; 53 are trustees for the administration of bequests ; 20 have almshouses for decayed members and their widows ; and 14 have established and maintain schools in various parts of the Metropolis, or in the country. Many are again paying attention to the advancement of the crafts with which they were originally associated ; and technical education in this respect bids fair to be of real value, and may lead to the preservation of industries which would otherwise in the industrial competition of nations pass away in other directions.

But apart from the revival of the early Gilds, there has been during the past quarter of a century or more a tendency to the estab. of new ones—mostly, however, under the patronage and influence of the Romish Church. We will mention a few of these.

The *Holy Gild of St. Chad* was estab. in Birmingham in 1841, "under the sanction of the Rt. Rev. Thomas Bishop of Cambysopolis, V.A. of the Central District, and Nicholas, Bishop of Melipotamus." It had Wardens, Bursars, and Lay Patrons, among the latter being the Earl of Shrewsbury and the Earl of Newburgh. It is stated in its

prosp.: "The Holy Gild of St. Chad is a religious and charitable So., of which the members, under the appellation of Brothers, are bound to act in concert for the greater advancement of the glory of God, and also to contribute periodically, by the payment of stated sums, towards the spiritual and temporal comfort of one another. . . . The present Gild is called Holy, from the sacredness of the objects which it has in view; and the Gild of St. Chad, because the principal church in the town, which is at the same time the Cathedral of the District, is placed under the patronage and will contain the relics of St. Chad." There is a note which adds: "There is reason to believe that the indulgences which are attached to the religious confraternities on the Continent will be extended to the Holy Gilds estab. in England." The primary objects of the Gild were declared to be—I. The glory of God, and the advancement of religion. II. The relief of the sick. III. The burial of the dead. The entrance money was on the following scale: under age 30, 2s. 6d.; 35, 5s.; 40, 7s. 6d.; 45, 10s.; 50, 12s. 6d.; "no one to be admissible after 50 years of age, as such persons would be likely to become burthens upon the Gild, before they have contributed their due proportion to its funds. The earliest age at which a person can be received as a member is 18 years." The contributions to the Gild were to be 1s. 6d. p. month, and 1s. contribution on the death of any member, "to secure for them the advantage of a Catholic funeral in the vaults of the cathedral." The benefit allowance to be 8s. p. week during first 6 months of sickness; 4s. during next 6 months; and 2s. 6d. weekly during a third like period; with contingent but modified relief during distress. When admitted a Brother of the Holy Gild, the new member will kneel and say: "*I devoutly place myself under the patronage of the Blessed Virgin Mary, St. Joseph, and St. Chad, and I promise to observe faithfully the Rules of this Holy Gild.*" The person will then be invested with the Gild costume, and all present will kneel, and say three times the Lord's Prayer, and the Angelic Salutation for the new Brother. Further:

6. On one of the days within the Octave of Corpus Christi, to be fixed upon by the Chaplain, the members of the Gild will be present at the solemn exposition of the most Holy Sacrament, in their festive costume, bearing lighted tapers in their hands, as a symbol both of the heavenly light which Christ came to diffuse throughout the world, and of the liveliness of their own faith in His presence upon our altars; and after having listened to a discourse on the subject of the real presence of Jesus Christ in the Eucharist, they will join together in endeavouring, by the fervour of their devotion, to make some amends to their Redeemer for the unbelief of those who have not yet learned to know him "in the breaking of bread." At the conclusion of the service, they will reverently approach the altar and make offering of their tapers for the use of the Church. . . .

8. On "All Souls Night" the members of the Gild will assemble in the Gild chapel, and there recite the office of the dead; the chapel being decorated for the occasion with the funeral ornaments of the Gild, and the members wearing their black dresses. . . .

9. On Maunday Thursday and the night following, the Brothers of the Gild, if required, will devoutly watch in turns before the repository of the Blessed Sacrament, commonly called the Sepulchre—and all will wear their festive dress.

10. The Mortuary Chapel of the Cathedral will be appropriated to the use of the Gild. In it will be erected the Gild altar, and the Gild will contribute towards the expenses of its decoration, as the Council shall think fit.

The essentially sectarian character of this Gild is seen in the following announcement:

1. As many of the most important duties prescribed by the Rules of this Holy Gild necessarily presuppose a belief in the doctrines, as well as a compliance with the devotional practices of the Catholic Church, no person can be admitted as a member of the Gild who is not a Catholic; and if at any time a member shall commit an act of apostasy, either by reading his recantation or frequenting places of heterodox worship, or by publicly and obstinately maintaining doctrines hostile to the Catholic faith, he shall thereupon cease to be a member of the Holy Gild.

In 1842 there was founded in London *The Holy Gild of St. Joseph and our Blessed Lady*, its location being "Virginia Street East, London." There was an ed. of its Rules pub. "Month of Mary," 1844, edited presumably by the Rev. John Moore, "Chaplain and Perpetual Chairman, Permissu Superiorum." These set forth that this Gild is a Religious and Charitable So., of which the members, under the appellation of *Brothers and Sisters*, are bound to act in concert for the greater advancement of the glory of God, and also to contribute periodically, by the payment of stated sums, towards the spiritual and temporal comfort of one another. "This Gild is called Holy from the sacredness of the objects it has in view; it is called the Gild of St. Joseph and our Blessed Lady—1. Because its members are generally supposed to belong to the industrious classes, of which St. Joseph has always been looked upon as the patron in the Catholic Church. 2. Because the Catholic Church teaches her children to fly to the Blessed Mother of Jesus for protection, and frequently to beg her powerful intercession." There were to be six processions, on certain Saints' days during the year, but these were of a religious rather than a secular character. Among the officers are Almoners of Spiritual Mercy, Almoners of Corporal Mercy, Mortuary Director, etc.

Same year there was founded *The Edinburgh Holy Gild of St. Joseph Friendly So.*, instituted "under the sanction of the Rt. Rev. the Vicar Apostolic of the Eastern District in Scotland." The Rules declared the Society to be of a threefold character: "being at once a Friendly So.; a Christian Sodality; and an Asso. for Promoting the Domestic Happiness and General Improvement of the Industrious Classes." The So. admitted two kinds of members: ordinary, "who must always profess the Roman Catholic Faith; and hon. members, who may belong to any religious denomination." There were to be 3 distinct branches, viz. a Sickness Fund, an Annuity Fund, and a Life Assu. Fund.

The Rules are drawn in considerable detail, and are edited by the Right Rev. Bishop Gillis.

About the same date there was estab. in Blackburn the *Holy Gild*. It addresses itself very much to the poorer classes, and says: "Let them be taught to rely more upon their own exertions, and not to run seeking for alms from every one around them when the slightest difficulty occurs. They may find it heavy to contribute their monthly alms; but they will find it much heavier, to their sad experience, when a child or parent is sick or dead, and no fund provided, which they might have as a certainty if they were members of the Gild." Among the Rules were the following:

45. The Brothers of the Holy Gild will dine together during the Octave of the Assumption of our Blessed Lady, unless otherwise arranged; and no females or children can be admitted. . . .

47. The Gild will invite all the Priests in the neighbourhood to their ann. hospitality, and to drink of their Gild Bowl.

48. On the morning of the Festival masses will commence at the dawn of day, and go on in succession till the High Mass, and each priest will be remunerated by the Gild.

49. Any Brother not joining the procession on that day, unless sufficient reasons be assigned, shall be fined 6d.

The Sisters were not to receive any alms during confinement, nor during sickness arising therefrom. Honorary members were invited to join, and the advantages held forward to them were: 1. He is subject to no fines. 2. He participates in the monthly masses, the daily prayers and good works of the Gild. 3. Two masses shall be offered up for him in his last sickness; and at his death two masses shall be offered up for the repose of his soul. 4. He shall if requested be buried with the usual Gild honours.

The preceding are but types of many hundreds of modern Gilds of recent estab. in various parts of the U.K.

A still more recent form of Religious Gild has been and is being estab. in various places. The *Railway Gild of the Holy Cross* may be taken as a type. This Gild is an association among members of the railway service, who are also members of the Church of England, and who desire, by mutual conference and counsel, to help themselves and others to lead a Christian life. For that purpose they hold frequent chapters, or meetings, at which addresses are delivered, papers read, and discussion invited on any subject bearing upon a godly life in the world, and the means whereby it may be promoted among the members, and commended to others. Clerical associates are asked to join the Gild, "for the sake of those spiritual services which the clergy only can render." The Gild, though composed of Churchmen, is, the Rules say, by no means an aggressive or proselytising body. It would interfere with no man's religious convictions, but it seeks the irreligious and unconvinced. The Gild consists of a Provost and Vice-Provost, a Master, and Council (elected out of the Brethren), and had, in 1877, 44 brethren, 22 clerical associates, 12 lay associates, and six women associates—84 members in all. The brethren only have a vote in the management of the Gild affairs. In time the Gild proposes to throw out branches in all the principal towns, and estab. in convenient centres clubs (open to working men generally, but with special privileges to railway servants), and organize services, lectures, instruction classes, and other machinery "designed to promote the well-being of the community." It may be mentioned that the rule of life for the Brethren of the Railway Gild provides chiefly that they shall say private prayers every morning and evening, with a collect daily on behalf of the Gild, when possible; that they shall ask a blessing before and say grace after meals; that they shall communicate at least three times in the year, of which Easter is to be one, and that they shall discountenance in every possible way swearing, intemperance, impurity, dishonesty, and the use of profane language. The rule for associates is less stringent, as they need not be communicants. There is neither entrance fee nor ann. subs. required of the members. The expenses of the Gild are met by offertories at chapter meetings, and at occasional services of the Gild, when so allowed by the incumbent of any church.

In Sept. 1877 this Gild held its anniversary services in St. Paul's Cathedral, at St. Stephen's, Lewisham, St. Barnabas', Pimlico, and other Metropolitan Churches. The celebration of the Holy Communion took place at 8 A.M.; and there were evening prayers and services at 8 P.M. None but members and associates were admitted.

GILHALDA TEUTONICORUM [GILDHALL OF THE TEUTONS].—An Order of Monks engaged in Commerce in North Germany, estab. a branch in London, it is said during the reign of Ethelred II., A.D. 978—1016. This commercial Order, it is asserted by German writers, was engaged in a very large and active bus. It had extensive warehouses in London on the banks of the Thames [The Steelyard], and laid the foundation for the English trade with all parts of the world. The property of the Order consisted of a vast quadrangle, which was provided with walls and fortifications; there the members lived, and occupied themselves exclusively with commerce.

Upon entering the Order, every member was obliged to bind himself with an oath to remain unmarried and to abstain from all intercourse whatever with women. He, moreover, bound himself to be faithful and true in his dealings, to do justice by all men, and consecrate all his energies to the service of the Order.

The privileges possessed by the Order were of very great magnitude; and, among other things, it is stated to have *practised Marine Ins.* In the course of several centuries its

name and character became changed, and henceforward it was more generally known as the confederation or fraternity of the *Steelyard*. The merchants of the Steelyard afterwards became intimately connected with the members of the Hanseatic League, and seem to have placed themselves under the protection of the council of the League. Under the latter name, the privileges of the Order subsisted without interruption until the year 1597. On the 1st of February of this year Queen Elizabeth caused the gate of the Order to be broken in, its warehouses to be demolished, and banished its members from England. This happened in consequence of a quarrel with the Hanseatic League; ships belonging to the League having carried away English property by way of security for outstanding liabilities.

It is asserted that this is the source of the introduction of Marine Ins. in England. Mr. Martin, in his *Hist. of Lloyds*, 1876, inclines to this view. We shall examine the question carefully under MARINE INS., HIST. OF. [HANSEATIC LEAGUE.] [STEELYARD, MERCHANTS OF THE.]

GILL, CHARLES, F.I.A. (known as Professor Gill).—Late Actuary of the *Mutual Insurance Co.* of New York, was born in Yorkshire, England, 22nd Oct. 1805. He was a mathematical teacher, and went through many privations in his younger days. In 1830 he left England for the U. S. In 1833 he was appointed Professor of Mathematics and Natural Philosophy in Flushing Institute. In 1849 he was appointed Mathematician [Actuary] to the *Mutual Benefit*, of New Jersey. In October of the same year he was appointed Actuary to the *Mutual* of New York. It was while occupying the last-named position that his writings became known in England, and indeed he became a contributor to the *Assu. Mag.* See his papers: *On the Determination of Surplus* [vol. i. p. 357], and on *Rates of Mortality in the U. S. and California* [vol. iii. p. 300]. He constructed the Mort. T. upon which the early operations of the New York *Mutual* were based. Before preparing that Table he submitted his plan to some of our then prominent English actuaries, and obtained their approval.

He was Editor of the *Mathematical Miscellany*, the first number of which appeared in 1836; and author of a *Treatise upon Angular Analysis*, pub. 1847.

He prepared a statement of the Mort. of the *Mutual* of N. Y. for the first 8 years of its existence, ending Feb. 1851.

He attended the General Congress of English and Foreign Representatives of Insurance Interests held in London in July, 1851.

He died 22nd Oct. 1855, aged 51. In the *Assu. Mag.* (vol. vi. p. 216) will be found a more detailed sketch of his eventful life.

GILL, CHARLES JOHN.—Was Sec. of *Solicitors and General Life* from its commencement down to its amalgamation in 1866.

GILL, HOWARD.—Was founder of the *Barbadoes Life* in 1840. [BARBADOES MUT.] He took out pol. No. 1 for \$10,000. On his death in 1877, the amount paid thereon was £21,106—affording an excellent indication of the success of the office.

GILLIES, ANDREW A.—District Agent in Manchester for the *Crown* since 1878. He had been trained to the bus. in the *English and Scottish Law*, which Co. he left in 1876 to take the position of Sec. in Manchester for the *Scottish Union*. Mr. Gillies has an excellent connexion in the north-western districts of England.

GILLIES, GILBERT A.—District Man. in Manchester for *County Fire* and *Provident Life* since 1875; was previously Local Sec. in Birmingham for *Scottish Provident*; and before that in the *Scottish Widows*.

GILMAN, CHARLES RACKHAM.—Has been associated with his father in the foundation and management of various important Ins. Asso. founded in, and conducted from, the City of Norwich. He was himself the founder of the *Norwich Provident Ins. So.* in 1859; and of the *Norwich and London Accident Ins. Asso.* in 1856. He is the Sec. of the last-named Co. as also of the *General Hailstorm Ins. Co.* founded by his father in 1843.

In Sept. 1874, Mr. Gilman was severely injured in what is known as the Thorpe [near Norwich] railway accident, wherein 23 persons lost their lives. A jury awarded him compensation as against the Railway Co. to the amount of £6497 [afterwards reduced by consent to £5497]. Very general sympathy was expressed by the Ins. profession on the occurrence of this injury. We believe he has now substantially regained his strength, to the satisfaction of a large body of agents and friends.

GILMAN, CHARLES SUCKLING.—Father of the preceding. He has been the founder of many local Ins. Asso.; and has indeed taken an active part in most of the local undertakings connected with his native city, Norwich [where his family trace their pedigree for upwards of three centuries; and it was under an ancestor, on the mother's side, that Lord Nelson received his naval training]. But confining ourselves to the Ins. Asso. which Mr. Gilman has founded, or aided in founding, we have the following important list:

1834.—*Militia Substitute Ins. Asso.*, to pay for and provide a substitute in the event of being drawn for in the local militia. There were many of these Asso. in existence in various parts of the kingdom in the first half of this century. They will be spoken of under MILITIA SUBSTITUTE INS.

1843.—*General Hailstorm Ins. So.*, of which we have already given an outline in its alphabetical place.

1846.—*Norwich Mutual Marine Assu. Asso.*, the object of which was to insure from loss by sea or river any goods on board regular traders to and from London, Goole, Gainsboro', Selby, and Hull, from and to Norwich, Yarmouth, or Lowestoft. Mr. Gilman was its Sec.

1849.—*Norfolk Farmers Cattle Ins. So.*, being one of the first, if not the first Mutual Asso. of this class in the southern half of the kingdom. Others soon followed. Mr. Gilman became Sec. The Asso. was at a later period reconstituted.

1856.—*Norwich and London Accident Ins. Asso.* This Asso. was actually founded by Mr. C. R. Gilman, with the active assistance of his father, who became and remains the Manager. This Asso. also insures plate glass.

1859.—*Norwich Provident Assu. So.* Mr. C. R. Gilman was the actual promoter of this Asso., but the senior Mr. Gilman took part in its foundation, and its bus. was for a time carried on in his office.

Mr. Gilman is now 73 years of age, but remains more or less actively engaged in the multifarious duties involved in the conduct of these several Asso. He, like his late friend and associate, Sir Samuel Bignold, affords a marked instance of what well-directed industry and perseverance can accomplish.

GILL'S TABLE OF MORT.—See *AMERICAN T. OF MORT.* (1842). [GILL, CHARLES.]

GILLY, W. O. J.—Pub. 1850: *Shipwrecks in the Royal Navy.* [NAVAL OPERATIONS, MORT. ARISING FROM.]

GIN-LIVER, OR DRUNKARD'S LIVER.—A term applied to the liver as it is commonly known amongst gin-drinkers: congestion and enlargement are succeeded by inflammation and contraction of the organ.

GIRDLESTONE, JAMES.—Was Man. of the London branch of *L'Etoile Francaise Ins. Co.* in 1875.

GLAND (from *glandis*, an acorn).—A small body occurring in many parts of the human system, and composed of its various tissues, blood-vessels, nerves, etc. Dr. Pemberton designates as *glands of supply*, the liver, the pancreas, the spleen, etc.; and as *glands of waste*, the kidneys, the mamma, etc.

GLAND-POX.—A popular name for *varicella*, or chicken-pox.

GLANDERS.—A febrile disease so called from its influencing the glandular system. It attacks the horse, the mule, and the ass. It appears to be contagious, and from more recent observations has been shown to assume two forms: the one being the true glanders—a local disease more especially attacking the mucus membrane; and the other a more general affection known under the name of *farcy*, and attacking the lymphatic or absorbent system. [FARCY.]

Glanders may extend to the bronchial membrane, and assume several different forms. Thus, there may be a mild discharge, lasting for many weeks, and a cure may then be brought about; or, on the contrary, the secretion from the nose may become green, black, or sanguinolent, and ulceration of the nasal bones may ensue, with great destruction of soft parts.

Acute Glanders is sometimes observed in the human subject, owing to the foul secretion from either of the animals named becoming absorbed. Persons so inoculated show marked adynamic symptoms, great discharge from the nares, while a pustular eruption breaks out upon the skin. The lungs soon become involved in inflammation, and death speedily ensues.

The *Sanitary Record* (8 Aug. 1874) offered the following obs. on the increasing prevalence of glanders:

The diseases of animals communicable to man are a group especially interesting to sanitary authorities. The evidence we have recently had as to the prevalence of rabies and glanders—two of the most horrible maladies known—renders this subject more than usually interesting just now. Originating in man solely by contagion from animals, they are perfectly preventible, but the prevention must be directed to stamping them out in the lower animals. This course is suggested not only by humanity but by economy, as it is beyond dispute that a saving in money and animal life follows the thorough stamping out of purely contagious diseases in this kingdom. The report of the Veterinary Department of the Privy Council Office shows that glanders increases every year, and, further, confesses that the official returns are far from giving a true indication of the number of cases. In London it is very widely spread, and some of the Durham collieries seem to have suffered frightfully. On one of them a miner has succumbed to the disease, having been inoculated by washing his hands in a cistern at which an affected animal had drunk. If the disease be allowed to continue unchecked, we shall certainly hear of the loss of more human life. Sanitary officials should use their influence with local authorities to have the regulations of the Contagious Diseases (Animals) Act strictly enforced. By an Order of Council dated June 30, 1873, farcy and glanders are subject to the same regulations, and the local authority may prohibit the movement of any horse that is glandered, or that has been in the same field, stable, shed, or other premises with a horse affected with glanders or farcy. This order thoroughly carried out would soon have a beneficial effect, but it does not touch the case of glanders in a private stable. If an inspector know of the existence of 20 glandered horses, he can only wait until they are brought into the street. He may suspect the disease, and he cannot stop other horses from leaving the infected stable to be sold into healthy studs. Much good may be done by existing regulations, if enforced; but until the inspector be armed with powers of entry on to suspected premises, glanders will remain and human beings liable to a loathsome death. Glandered horses, wherever found—in public streets or on private premises—should be subject to compulsory slaughter, and the inspectors entrusted with these measures should be qualified veterinary surgeons.

We shall now proceed to notice the statistics resulting from attacks of this disease on (1) animals, (2) human beings:

Animals.—The Rep. of the Metropolitan Board of Works for the year 1874 stated that the number of cases of Glanders in horses [in the Metropolitan District] had largely increased during that year. In the 3 previous years they had been respectively 60, 178, and 175; while in 1874 they reached 232—of which 4 died, and 228 were killed—there being no cure; or perhaps it may be said that the danger to human life is so great, no cure is attempted usually.

Human beings.—See next article.

GLANDERS, DEATHS FROM (Class ZYMOTIC, Order *Enthetic*).—The deaths from this distressing disease in England are very rare. Previous to 1855 they were classed with erysipelas. In ten consecutive years they were as follows: 1858, 1; 1859, 3; 1860, 4; 1861, 6; 1862, 4; 1863, 5; 1864, 2; 1865, 4; 1866, 4; 1867, 4; giving about 1 case to every 5 millions of the pop. The deaths of 1867 were confined to males; 2 died between 25 and 35; 1 between 35 and 45; 1 between 65 and 75.

In the subsequent 10 years 1868–77, the deaths have been respectively 6, 3, 4, 5, 7, 3, 4, 1, 2, 4. In the 5 years 1855–9 the deaths had averaged 1 to each 1 million living; in the 5 years 1860–4, 2; 5 years 1865–9, 6; 5 years 1870–4, 2. In the 3 several years 1875–6–7, the deaths per million living were respectively 4, 1, and 2. This is therefore almost the least prevalent disease affecting humanity.

GLASGOW (CITY OF).—This is the principal commercial and manufacturing town of Scotland; and the condition of its inhabitants has engaged the attention of social and sanitary reformers, and of statisticians and philanthropists, during the greater portion of the present century.

The city proper stands on the right bank of the River Clyde, having the suburbs of Calton and Bridgeton on the east, and those of Anderston and Finnieston on the west; the whole forming one continuous town. Besides these, the suburban villages of Cambachie, Westmuir, and Parkhead on the east, and of Patrich on the west, have now in fact been incorp. in the City. On the opposite or left bank of the river is the ancient suburb of Gorbals; and of more modern growth, those of Hutchesontown on the east, and Laurieston, Tradeston, Kingston, and Govan on the west. The whole being now blended into one vast city; but we have thought it desirable to name these several more ancient divisions in view of the proper comprehension of locations in reports, etc., to which reference is hereafter made.

The climate of the City is marked by great humidity and the prevalence of south and south-west winds; and it has been attempted to be shown that these conditions are unfavourable to infant life; and that therefore a solution is afforded to the heavy infant mort. which has for many years prevailed. But it is more than prob. that this mort. is almost entirely due to other causes.

The special Ins. events associated with this City are but few. In 1652 the town was “wasted by a great fire;” 1782 theatre burned; 1829 theatre again burned; 1832 (14th Jan.) great fire, loss £150,000; 1834 Glasgow lotteries discontinued by Act of Parl.; 1849 false alarm of fire at theatre, 70 persons crushed to death; 1859 new water supply from Loch Katrine completed; 1863 theatre burned, third time; 1872 (27 Mar.) Fraser and Maclaren’s warehouses, Buchanan Street, burned, loss £100,000; same year (9 July) explosion and fire at Tradeston flour-mills, loss £70,000; 1867 (22 April) great fire in Buchanan Street.

Insurance Asso.—The following Ins. Asso. have taken their rise in this City:

- ? Glasgow Fire Ins. Asso. Duty returns in 1805, £1955 12s. 6d.
- 1808 Glasgow Annuity So. Business continued.
- 1821 Commercial Life Ins. Co. of Scotland. Died out.
- 1826 Scottish Amicable Life. Flourishing.
- „ West of Scotland. Became *Metellus*; and died out.
- 1836 Glasgow Ins. Co. (Fire). Trans. to *Scottish Provincial*.
- 1837 Metellus Fire. Died out.
- 1838 City of Glasgow Life. Flourishing.
- 1839 Glasgow Marine. Fate not recorded.
- 1840 City of Glasgow (Annuity). Wound up 1854.
- „ Scottish Marine. Pol. transferred in 1844.
- 1844 Western Fire and Life. Trans. to *Northern* 1847.
- 1845 Glasgow Assurance (Life). Trans. to *Edinburgh* Life in 1848.
- „ West of Scotland Guarantee. Wound up in 1848.
- 1848 Clydesdale Cattle Ins. Died out.
- 1852 Scottish Legal Industrial. Still existing—enrolled as Friendly So.
- 1857 Scottish Economic Fire. Projected; not matured.
- 1863 British Legal Life and Loan. Still existing.
- „ Scottish Industrial Life. Trans. to *Empire* Life.
- 1865 Scottish Commercial Fire and Life. Bus. continued.
- 1866 Scottish Imperial Fire, Life, etc. Bus. continued.
- 1871 Caledonian Plate Glass. Bus. continued.

We shall now proceed to review the circumstances affecting the Ins. interests and Vital

Statistics of the City more in detail, as classed under their appropriate alphabetical headings :

Bills of Mortality.—1613.—The Presbytery of the City ordered B. of Mort. to be kept within the bounds of its authority at this date.

1694.—The mode of keeping the B. of Mort. was placed on a much more accurate basis at this date ; but they were by no means perfect ; and in some cases the name of the deceased is all that can be found in these ancient Bills.

1783.—On the extension to Scotland of the Tax on Births, Marriages, and Burials, the Register of the City was then remodelled, so as to show the name, the designation, the age, and the cause of death of all who died.

1819.—On the enumeration of the inhabitants of the City this year, great attention was paid to the classification of ages ; and similar care was now extended to the B. of Mort.

1827.—Accompanying the Bill for this year was the following explanation :

The Regis. of *Baptisms and Marriages* is entrusted to the Session Clerks, who keep regular books, and receive a fee for each entry. Although the solemnization of marriages in Scotland is not restricted, as in England, to clergymen of the Estab. Church, a marriage cannot be solemnized till a certificate of the proclamation of banns is produced from the Session Clerk ; and even in the case of an irregular marriage, the solicitude of the female and her friends to have the marriage regis. is so strong, that the accuracy of the Register may be relied on.

The Regis. of *Burials* is entrusted to the Church-yard Wardens, of whom there are 12 in the pop. district. These officers, who require a fee for their trouble, attend *all* funerals, and make a memorandum of the name, age, etc., of the deceased, which is afterwards engrossed in their registers ; and it is from these regis. that I make up the Ann. B. of Mort.

This explanatory letter bore the signature of Dr. Cleland, whose name is so intimately associated with the V. S. of Glasgow. As now remodelled, the Bills of this City were regarded as the most complete in the kingdom.

1844.—There was published in this City : *The Glasgow Bills of Mort. for 1841 and 1842, drawn up by Appointment and under the Authority of the Lord Provost, Magistrates, and Town Council.* By Alexander Watt, LL.D., City Statist, etc., “submitted to and approved of by the Committee, agreeably to minute of Town Council.” This vol. is full of details of the greatest interest as affecting the vitality of the pop. We shall notice some of its contents under sub-heading *Mortality*.

1846.—A similar Rep. was pub. this year under the title of *Vital Statistics of Glasgow for 1843 and 1844, etc.* This too abounds with obs. of value.

1854.—There was enacted the 17 & 18 Vict. c. 80 : *An Act to Provide for the better Regis. of Births, Deaths, and Marriages in Scot.* The old system was to cease on 31 Dec. this year, and the new system was to commence on 1st Jan.

See sub-heading *Population*.

Fire Protection.—The City has a paid Fire Brigade, estab. in 1800, and worked in connexion with the police. It has a large number of Fire Engines, and all the necessary modern appliances. But the chief feature in its fire extinguishing arrangements is the abundant supply of water it has at command, so that the Fire Engines are very rarely required.

The arrangements are made under a Local Police Act. The cost is apportioned as follows : One-half charged on the rates of the town ; the remainder is recovered from the owners of property where fires have occurred.

1843.—The clause in the Police Act, 6 & 7 Vict. c. 99, under which proprietors or occupiers are charged for use of the Brigade, is as follows :

And be it enacted that from and after the passing of this Act, the proprietor or occupier of any dwelling-house, shop, warehouse, or other house or tenement, or any timber or other yard, or other premises or place within the limits of this Act, in which a fire breaks out or takes place, shall pay to the collector or treasurer, to be continued or appointed under this Act, a sum of money not exceeding £15 sterling, to be expended under the direction of the said Board in paying premiums or wages to the firemen or other persons who shall have assisted in extinguishing such fire, and in defraying the other expenses necessarily incurred by bringing to the spot fire engines and the supply of water, or otherwise ; provided always that where the actual expense does not amount to £30, only one-half of the actual expense shall be charged, and in no case any higher sum than £15.

1862.—Mr. Bryson, the Supt. of the Brigade, said before the Select Parl. Committee (Fires in the Metropolis) which sat this year, “We have now, you may say, a fire engine at every door in Glasgow. We have more power than a fire engine, because our fire-cock is a very simple contrivance, and when a fire takes place you have only to turn on a tap, and you have more power than in many of the London Fire Engines.” “A fire never extends beyond one property here.” (Q. 2966.)

The fire-cocks, which are always under high pressure, are placed 50, 60, or 70 yards apart, according to the nature of the property at risk. By attaching the hose-pipes to them, water can be thrown over the highest houses in the City.

The Fire Brigade do no police duty except that the fireman in each district is a police-constable when not acting as a fireman.

The following dialogue took place towards the close of Mr. Bryson's examination :

3019. Do you consider that since the arrangements have been in existence for the extinction of fire, they have given rise to indolence or carelessness on the part of proprietors?—No!

3020. Do you suppose that there is any greater want of care against fire in consequence of the

greater means of extinguishing it?—No; except that when fires are small, people are generally not so cautious, and they may get a little indifferent.

3023. Have you ever made any calculation of what proportion of the fires which take place arise from incendiarism?—It must be very small in Glasgow; ill-constructed buildings are a great cause of fire.

There was enacted this year “The Glasgow Police Act,” 25 & 26 Vict. c. cciv., clauses 160 to 170 of which specially relate to the Prevention and Suppression of Fires.

1873.—The Tariff Fire Offices appointed a committee to estab. a Salvage Corps in this City. Mr. Edwin Goodchild, who had been connected with the London Salvage Corps, was selected for Supt. See GLASGOW RATE AND SALVAGE COMMITTEE.

1875.—The Rep. of Mr. Goodchild, the Supt. of the Salvage Corps, for this year, presented a great many points of interest:

Since his appointment to his present post, he had devoted considerable attention to the numerous fires arising “from the ends of lintels, beams, and other timber having been introduced into vents, from defects in brick or stonework of same, and hearth stones in front of fireplaces being laid on timber instead of on some incombustible material.” The result of his observations went to show that, while the per-centage of fires proceeding from these causes was in London 8·709, in Liverpool 11·145, in Manchester 18·729, in Glasgow it reached the high figure of 35·849. Mr. Goodchild then proceeded to indicate some of the most common defects to be found in this City in connexion with this inquiry, and to suggest such alterations as, in his opinion, would conduce to safety. The matters to which his report more particularly referred were: the fixing of boilers, furnaces, projecting stoves for irons, etc.; the use of wooden bins for fuel in close proximity to the stoves; the depositing of ashes in wooden boxes; the boarding or papering up of unused fireplaces, or the filling of them with combustible rubbish; movable gas brackets and soft metal gas pipes; sun-lights; unprotected oil lamps and other portable lights; steam and hot water pipes and their contiguity to woodwork; the smoking of tobacco in places where goods are stored; and the carelessness of workmen employed in the erection or alteration of buildings.

The *Ins. Circular* remarked thereon:

No person who has had experience of the results of Fire Ins. in our good city will fail to perceive that Mr. Goodchild, in his brief report, has embraced the leading causes which have contributed, for many years, to exalt Glasgow to a “bad pre-eminence” in the estimation of the offices; and the sound practical suggestions which he offers deserve to be seriously pondered. The unpretending document, which is before us as we write, is of undoubted value to Ins. managers; and, when it is considered that the rates of prem. charged here are, on the average, far in excess of those paid for similar risks in other large cities, it will be obvious that the points raised are by no means destitute of interest to the community at large. The offices would do wisely to circulate the report amongst the commercial public, as well as amongst architects, builders, and others engaged in the construction of property. Mr. Goodchild is thoroughly practical, and his intelligence, backed by a life-long metropolitan experience in such matters, renders his residence amongst us a decided gain to this city.

1876.—The Glasgow Rate and Salvage Committee were united in Jan. of this year.

The following details are drawn from the Report of the Glasgow Salvage Committee for this year. The amalg. of this with the Rate Committee had worked very satisfactorily. More than 500 buildings, besides 22 public works, had been inspected and reported upon during the year; and no less than 293 surveys of Glasgow and Greenock warehouse risks had been issued.

The fires of the year were 294 within and 19 without the municipal boundaries. Of these latter, 11 were at a considerable distance, and were not attended by the brigade. The number of fires within the City boundaries showed a decrease of 48 within the same area in the preceding year. The proportion of large fires within the city had been smaller than usual; but those outside the limits had been very serious. Every effort had been made to discover the causes of the fires; and the details of results were given in the Report.

1878.—There was a material increase in the proportion of serious fires this year. The figures for this and the 3 preceding years may be tabulated as follows:

	Number of Fires Attended		Total.	Special Services.
	Within the City Boundary.	Outside City Boundary.		
1875	342	10	352	102
1876	294	17	311	85
1877	320	28	348	109
1878	339	25	364	90

See FIRE EXTINGUISHMENT, EXPENSES OF, 1821 and 1843.

Houses.—The following T. of Houses occupied and unoccupied “within the Parliamentary Burg and Ancient Royalty” of the City during a period of 12 years presents the

remarkable feature of a generally decreasing proportion unoccupied with the increasing number of houses :

Year.	Occupied.	Unoccupied.	Year.	Occupied.	Unoccupied.
1861	82,493	5086	1867	92,021	not ascertained
1862	82,885	6703	1868	93,393	1609
1863	85,163	6536	1869	95,516	1602
1864	87,767	4828	1870	96,995	2125
1865	90,008	3280	1871	98,414	2090
1866	91,623	1763	1872	100,177	2109

Life Ins.—In 1845 the Man. of the five Life Offices in Glasgow had under consideration a project for appointing a common representative in London—prob. mainly for the purpose of receiving re-insurances. One of the managers, however, wished to stipulate that all the Offices should be entitled to establish a separate agency for pol. on the parti. scale ; but this being deemed inexpedient by the majority, the project fell through. Each of the Glasgow Life Offices has long since had it own representative in the metrop.

Mortality.—1823.—Mr. Cleland pub. *Statistical Tables Relative to Glasgow* (3rd ed. 8vo. Glasgow), from which Mr. Milne afterwards drew much valuable information. See 1827.

1827.—Mr. Joshua Milne laid before the Select Parl. Committee on Friendly Sos. which sat this year, a T. showing (*inter alia*) the rate of mort. in Glasgow during certain periods concerning which he had the required data.

During	Commencing with	Ending with	The Mean No. of the People was	Died Annually on an Average 1 person out of
10 years	1801	1810	97,115	43'43
10 years	1811	1820	128,751	45'66
7 years	1816	1822	147,197	46'78
1 year	1818	1818	150,000	38'48
6 years	1821	1826	158,354	39'13
2 years	1821	1822	150,813	44'05
4 years	1823	1826	162,124	37'20
26 years	1801	1826	127,818	44'41

The data for this investigation had been almost entirely drawn from Dr. Cleland's work pub. in 1823, wherein the omissions made in the official enumeration of 1801 and 1811 had been rectified.

1836.—Mr. T. R. Edmonds, B.A., contributed to the *Lancet* for 11 June of this year a paper : *On the Mort. at Glasgow, and on the Increasing Mort. in England*. The writer says : "The obs. extends over the 15 years 1821-35, and is complete in all the particulars requisite for the accurate determination of the absolute mort. at every age during any part of the observed period. *There are two points in which the Glasgow materials excel all others.* First, in supplying an authentic list of all the deaths with their ages, whilst in England we have only the deaths entered in the Parish Registers, with little security against omissions through negligence. The other point of superiority consists in a second (voluntary) enumeration of the living and *their ages* made in the year 1831. In England we have only one such enumeration made in 1821." After a further review of the materials available in Glasgow, and an especial commendation of the accuracy secured by the "Committee on Church-yards" [see sub-heading *Bills of Mort.*], he proceeds to tabulate the data before him ; we will content ourselves with reproducing the main results as embodied in the following paragraphs :

The most remarkable feature presented by the present Glasgow obs. is the rapid and uniform increase in the mort. of adults. Between the ages of 30 and 60 the mort. of each sex increased 20 p.c. every 5 years. This is the case after deducting 10 p.c. from the actual average of the 5 years 1831-35, as the effect of the cholera visitation in 1832. The mort. in 1832 between the ages of 30 and 60 really raised the average 20 p.c., but it may be judged prob. that one-half of this excess consisted of weak lives, who would have been carried off by other diseases during the succeeding 3 years. A comparison of the mort. suffered in the first two quinquennial periods will serve to show how little knowledge can be obtained as to the real state of a pop., when the *ages* of the living and dying are not distinguished. During the 5 years 1826-30, the mort. at all ages was nearly equal to the mort. which had prevailed during the preceding 5 years ; and yet the mort. between the ages 30 and 60 had increased nearly 20 p.c. during the latter period. The increased mort. of adults had been marked by a diminished mort. among children.

In Glasgow, the mort. under the age of 5 years had been progressively diminishing until the year 1830, since which time it has rapidly increased. This fact is supported by the obs. on London pub. in the *Lancet* of Jan. 30 [1836], wherein I have shown that the mort. under the age of 5 years had been uniformly diminishing during a period of 100 years ending with 1829. The increasing mort. of adults in Glasgow is supported by the pop. returns for all England at least between the ages of 15 and 25 years. If it be assumed, which is highly prob., that the number of females living at this interval, bore

the same proportion to the total English pop. throughout the 18 years 1813-30, the mort. between the ages 15 and 25 has been increasing at the rate of $1\frac{1}{2}$ p.c. every 10 years. The relative mort. at this interval of age, during the 3 continuous periods 1813-17, 1818-25, and 1826-30, was represented by the Nos. 100, 109, and 116 respectively.

He gave the following supplemental T.:

T. Showing the Mort. of each Sex at All Ages experienced in Glasgow during each of the 15 Years 1821-35.

Year.	Males.	Females.	Year.	Males.	Females.
1821	2'54	2'16	1831	3'23	2'72
1822	2'46	2'06	1832	4'87	4'32
1823	3'09	2'43	1833	3'23	2'43
1824	2'90	2'51	1834	5'16	2'43
1825	2'86	2'63	1835	3'50	2'81
1826	2'72	2'21			
1827	3'01	2'41			
1828	3'22	2'82	1821-25	2'78	2'37
1829	2'89	2'41	1826-30	2'91	2'40
1830	2'70	2'15	1831-35	3'59	2'93

Mr. Edmonds remarks :

It is not to be supposed possible that the past extraordinary increase in the mort. of the adults at Glasgow can be of any long continuance. If the circumstances of Glasgow (and of Britain in general) had been of an ordinary nature, it might be properly concluded that the mort. between 30 and 60 years of age had passed from a minimum to a maximum (differing 50 p.c.) in the short space of 10 years. But it is now impossible to form any safe conclusion as to the prob. future maximum. In Glasgow and in all England the mort. under the age of 5 years is nearly one-half less than that indicated by all previous obs.; and it appears in the highest degree prob. that the part of the pop. which has suffered so low a mort. in infancy will suffer a correspondingly high mort. when arrived at mature years.

1841.—It was remarked at this date that while the dwellings of the rich were rapidly spreading over a greater surface of ground, in proportion to the amount of inhabitants, it appeared that where the pop. was the most dense it was invariably in the poorest class of houses. In Gorbals proper, which covered 13 acres of ground, there were 787 inhabitants to an acre—being an increase of 20'39 p.c. since 1831, though no new buildings had been erected. The average annual number of deaths by fever during the preceding 5 years had been 11'86 p.c. of the whole deaths; in 1840 they were 13'93 of the whole. From 15 years and upwards no less than three-fourths of the deaths by fever (exclusive of those constantly sick) took place at those periods of life when the parties could support themselves, and in many cases had others dependent upon them, such as their own families and their aged parents. And to add to the evil, the proportions of deaths were as 100 males to 75'19 females—thus still further increasing the evils dependent on poverty and destitution!

1842.—Dr. W. P. Alison, M.D., read before the Statistical Sect. of the British Asso. at Manchester this year, a paper: *On the Destitution and Mort. in some of the Large Towns in Scotland*, wherein occurs the following passage, given in abstract :

In regard to the effects of the Scotch system of the management of the poor on the Mort. of the Great Towns, this could be best judged of in years of Epidemics, because great part of the effect of bad management of the poor is to render them peculiarly liable to suffer from such visitations. Although several extensive epidemics had occurred, since the English Regis. Act came into force, in the English Great Towns he could not find that the ann. mort. in any of them had ever exceeded 1 in 30; but it had been fully ascertained that in *Glasgow* the mort. had reached this amount on an average of 5 years; and that in 1857 it had reached 1 in 24—exceeding that recorded in any year in Liverpool (the most unhealthy town in England by reason of its Irish poor) by 25 p.c.

1844.—Mr. Alexander Watt, in his pub. on *The Glasgow Bills of Mort. for 1841-2*, already noticed under sub-heading *B. of Mort.*, offers the following obs. on the excessive mort. experienced in this city :

One of the most important causes of the variation in the amount of mort. at different seasons of the year arises from the temperature of the atmosphere. . . . The mort. is at its maximum intensity in January, and at its minimum in June. Generally speaking, the average amount of mort. in the different months is regulated by the distance of the sun from the tropics; yet it does not appear that temperature alone is sufficient to account for the excess of mort. in different years over that of others. *The influence of high winds has been found to be great in removing infection and disease*; and other causes connected with atmospheric influence may be found to account for variations in the amount of mort., were a complete set of meteorological obs. recorded in our Mort. Bills. . . .

To give anything like a proper report of the fatal effects produced on the sanitary condition of our town pop. by defective drainage, the want of a free circulation of air among the dwellings of the poor, and inattention to cleanliness, would necessarily extend our remarks to an inconvenient length. . . . I may state, however, that in those towns I have lately had an opportunity of inspecting, both in England and Scotland, where the mort. is the highest, there is decidedly the most defect in these respects. How these evils are to be most effectually remedied becomes matter of important inquiry. . . .

The effects produced by intemperance on the health, the morals, and the general well-being of the pop. are in many cases of the most lamentable description. . . .

1855.—The new Registration Act (17 & 18 Vict. c. 80) came into force with the

commencement of this year. The Reg.-Gen. of Scot. did not pub. his 1st Rep. until 1861; but it contained the following T., which cannot fail to be regarded with much interest:

GLASGOW.—*Pop. and Deaths in 1855 at Different Ages, and Proportion of Deaths to Pop. at each Age.*

Ages.	Population 1855.		Deaths 1855.		p.c. Deaths to Pop.	
	Males.	Females.	Males.	Females.	Males.	Females.
Under 5 years.	22,265	22,196	2702	2583	12'13	11'63
5—10	18,621	18,506	249	210	1'34	1'13
10—15	18,046	18,082	119	110	0'66	0'60
15—20	18,978	21,710	176	170	0'92	0'78
20—30	35,481	43,249	395	410	1'11	0'94
30—40	23,850	27,409	362	409	1'52	1'49
40—50	16,199	18,296	334	368	2'06	2'01
50—60	9,087	11,514	319	363	3'51	3'14
60—70	4,483	6,517	296	347	6'60	5'32
70—80	1,583	2,439	203	298	19'70	12'21
80—90	311	505	70	118	22'50	23'36
90—100	16	66	11	19	68'11	28'78
100 & above	1	4	1	1	100'00	25'00
Not stated	—	—	9	3	—	—
All Ages	168,876	190,493	5246	5409	3'10	2'77
Both Sexes	359,369		10,655		2'96	

1864.—This year was one of great mort. in this city. Some statistics on this subject will be given under date 1869, in comparison with the statistics of that year.

1869.—The City Chamberlain, Mr. W. W. Watson, pub.: *The Vital, Social, and Economic Statistics of Glasgow*, wherein he says:

The high rate of mort. attained in Glasgow during the first quarter of the present year (1869) discloses a position of matters incapable of being gainsaid; and yet it does not appear to be attributable to any special epidemic, but, as was the case during the heavy mort. of the first 3 months of 1864, it would rather seem to be attributable to an aggravation of the features of almost every class of disease: more especially of those connected with the respiratory organs. In these months of 1864 smallpox carried off 154; scarlatina, 290; hooping cough, 221; measles, 104; fevers, 273; phthisis, 577; and bronchitis, 670. In the corresponding 3 months of 1869, smallpox carried off 4; scarlatina, 284; hooping cough, 218; measles, 194; fevers, 235; phthisis, 503; bronchitis, 836; and pneumonia, 241. The similarity of these numbers in the two years, excepting in the case of smallpox, is very striking, and it will be observed that of the total number of 4487 deaths regis. in Jan. Feb. and March of 1869, so many as 2511 are attributable to these seven causes alone, for smallpox need not be included. Again, of these 2511 deaths, 1342 were under 5 years of age—exhibiting on the whole no very considerable increase in the proportion of infantile deaths as compared with the results of 1868. Very many and conflicting theories have been propounded—some of these sufficiently fantastic—to account for this excessive mort., but we must not forget the great depression of trade in many departments, nor the unseasonable mildness of Dec. Jan. and Feb. followed by the severity of March; and generally I am strongly inclined to think, and fear, that the whole matter may unhappily be summed up in a single sentence—that privation, low diet, and over-crowding, accompanied by unseasonable temperature, have simply told their inevitable tale.

1873.—Dr. Russell, the Medical Officer for the City, prepared two tables concerning its mort. for the quarter ending 31st March, 1873. The first of these was a return of deaths from all causes at all ages; the other, a return of the deaths of children under five years. The statistics given in the first return show that the municipality contained a pop. of 514,295 (of which 70,970 were children under five years), being about 87 persons to the acre. The total number of deaths during the quarter was 3070, of which 1614 were those of children under five years; 404 between five and twenty; 1257 between twenty and sixty; and 695 were sixty years and upwards. The general death-rate was 31 (31'5 exactly) p. 1000 living; the birth-rate 40 per 1000 living. The death-rate p. 1000 living under one year was 180; one and under five years, 64 (making under five years, 93); five years and upwards, 21. The deaths under five years amounted to 41 p.c. of the total deaths. Of the births, 9½ p.c. were illegitimate.

The following are the causes of death at all ages, in order from the highest downwards:

Consumption and acute diseases of the lungs	1517
Nervous diseases of children, atrophy and debility of children, and premature births, all below five years	517
Scarlet fever, measles, hooping cough, croup, and diphtheria—all which affect children chiefly	413
Fevers	87
Diarrhoeal diseases	83
Smallpox	59
Unclassified causes	1375
Total	4051

Of the districts included within the city boundary, the most densely populated is Calton and contained 38,126 inhabitants, or 185 to the acre; the least densely populated, Maryhill, with 4545, being 11 to the acre. The death-rate in the former was 35 p. 1000, in the latter 14. The following were the causes of child death (excluding the deaths which occurred in institutions):—

General infectious diseases	43
Special ditto of children	336
Diarrhoeal diseases	43
Consumption and acute disease of lungs	425
Nervous diseases of children	307
Atrophy and debility of children	117
Premature birth	84
Other causes	257
Total	1612

1874.—The mort. in Glasgow this year was high, although not equal in death-rate to that of Dundee. Zymotic diseases prevailed largely. The Reg.-Gen. for Scotland said in his detailed Report:—

In Glasgow 817 p. 100,000 of pop. perished by zymotic diseases, which caused 26'21 p.c. of the gross mort. Of deaths from all causes scarlatina caused 10'61 p.c.; whooping cough, 4'27; diarrhoea, 3'44; and fevers, chiefly typhoid, 2'22. In add. 1'36 p.c. of all regis. deaths were due to smallpox.

The registration districts of the city were re-arranged as follows: the 10 old districts were abandoned, and a subdivision into 24 was adopted. At the same time the registration area was extended so as to embrace a district having a pop. of 8811 in 1801, which had increased to 14,114 in 1871. This to take effect from 1st January next year.

1875.—This year opened with a death-rate so heavy as to draw serious attention to its causes. It was stated to be the highest death-rate ever recorded in the city. The short facts are these—In the week ending 26th Dec. 1874, the rate was 50 p. 1000; In the week ending 2nd January, it had increased to 60, by the 9th to 66; on the 16th it had fallen to 44, and by the 23rd to 34. The combined causes of this were severe frost accompanied by continuous dense fog. The *Glasgow Herald*, in drawing attention to this heavy mort., offered the following comments:

It is quite possible that during the epidemic of cholera in 1848 the rate may have been higher, but no official register was then kept. The two periods, moreover, do not afford a proper comparison, for while in 1848 the city was visited by a fearful epidemic, we are not now suffering as a community from any exceptional disease. Taking the death-rate reported for last week, we find that it shows, in the case of pulmonary ailments, an increase of upwards of 100 p.c. over the ordinary average. Obviously this increase is traceable directly to the severity of the weather. As regards general diseases, the increase of deaths is no less than 150 p.c. This state of matters is very alarming, and as the humbler classes, with few home comforts and fewer friends, are chiefly the sufferers, the prevailing misery cannot at this season be too strongly impressed upon those who are surrounded by all that makes life enjoyable. It is easy to prove, if any proof were needed, that death is knocking loudest at the doors of the poor. In the western districts of the city, where people are well housed, well clothed, and well fed, and sanitary laws are as far as possible observed, the ordinary death-rate is only on an average about 10 p. 1000, being very little above the mean rate of the Reg.-Gen. The severe weather has brought it up to something like 24 p. 1000, or an increase of 26 p.c.—this extra mort. taking place principally amongst aged and very young persons. In the poorer districts, again, comprising Calton, Cowcaddens, Anderson, Gorbals, and the Central, the ordinary average death-rate is 34 p. 1000, whereas during last week, still excluding for two days the nine registration districts, the mort. is 68 p. 1000, exactly double the ordinary rate, and representing the extinction of the entire population in 15 years. Any one acquainted with the habits of the lower classes as a whole will not be surprised at this enormous increase in the death-rate.

1876.—The 39th Ann. Rep. of the Reg.-Gen. for E. and W. gave the ann. death-rate of children under 5 years of age in 17 large towns in the kingdom during the 4 years 1873-6 inclusive. Taking the individual years, the death-rates in Glasgow were: 1873, 96'0; 1874, 102'0; 1875, 94'0; 1876, 84'0—giving an average over the period of 97'3 p. 1000 living. This was slightly less than in Liverpool, and 5 p. 1000 less than in Salford.

The same Report also furnished the following details: The pop. in the middle of the year was estimated at 545,144, giving a density of 90'4 persons to an acre. The births in the year were 20,961; the deaths 13,759—giving an ann. rate for births p. 1000 living of 38'6; and of deaths 25'3. But the death-rates in each of the preceding 4 years had been higher, viz. 1872, 28'4; 1873, 29'1; 1874, 31'1; 1875, 28'6.

1877.—Dr. B. W. Richardson, F.R.S., delivered one of a series of lectures known as "Glasgow Science Lectures," wherein he offered the following obs.: There had been great improvements of late years; but still it would not be fair to say that Glasgow was a model city of health. Sometimes in England they had been actually appalled to look at the death-rate of Glasgow, and were obliged to compare it with Bombay, Calcutta, and other cities much less favoured than she was in regard to sanitary requirements. But she was not now worse than other cities, and in many respects she was better; and every day she was clearly improving, as the death-rate showed. He then passed on to general considerations affecting health and human life; and finally enumerated the steps which ought to be taken in great cities in the direction of public health. See sub-heading *Bills of Mort.* [GLASGOW MORT. T.]

Population.—The growth of the pop. of this city has been of late years very rapid. The records fortunately extend back for more than three centuries :

Year 1560 Pop.	4,500	Year 1791 Pop.	66,578
" 1610 "	7,644	" 1801 "	83,769 census
" 1660 "	14,678	" 1811 "	110,460 "
" 1688 "	11,948	" 1819 "	147,197 estimated
" 1708 "	12,756	" 1821 "	147,043 census
" 1712 "	13,832	" 1831 "	202,426 "
" 1740 "	17,034	" 1836 "	235,000 estimated
" 1755 "	23,546	" 1841 "	280,682 census
" 1763 "	28,300	" 1851 "	347,001 "
" 1780 "	42,838	" 1861 "	397,163 R.-G. of
" 1785 "	45,889	" 1871 "	480,270 Scot.

The Registration Districts included in Glasgow for the purposes of the Census do not include Govan, which had in 1861 a pop. of 28,584, and in 1871 of 56,754—showing an increase of nearly cent. p. cent. in 10 years.

1821.—Previous to the census of this year the magistrates of the city appointed Dr. James Cleland to superintend all the arrangements therefor. His especial aptitude for that position was soon shown. He commenced by explaining to the inhabitants, by means of advertisements and para. in the public papers, the nature and object of enumerations, and how desirable it was that they should be accurate; and having done this, he next availed himself of the voluntary services of a number of gentlemen who offered to superintend the proceedings of the officers in their respective parishes and districts; so that the census was taken with the perfect concurrence of the inhabitants, and with the most scrupulous accuracy. The inhabitants were exactly classed according to their age, sex, and profession; and a great deal of interesting information of various sorts, was consequently obtained. It was found, for example, that there were in Glasgow at an average 4'681 persons to a family; that the children below 12 years of age amounted to one-fourth and $\frac{1}{1000}$, and that the persons under 20 years of age amounted to four-ninths and $\frac{1}{1000}$ of the entire pop.; that there were 2 persons for every apartment; that of 68,119 males, 21,473 were married; and that of 78,924 females, 21,743 were, of course, also married.

1826.—Under the head of *Glasgow (City of), Mort. T. for*, we have reviewed the causes which operated to check the progress of the pop. at this date, in some detail, for purposes which there appear.

1831.—There was pub.: *Enumeration of the Inhabitants of the City of Glasgow and County of Lanark, for the Gov. Census of 1831, with Pop. and Statistical T. relative to Scotland and England.* By J. Cleland. These T. engaged much attention, and were regarded as unusually complete.

1841.—The pop. this year was 282,134 (within the same boundaries as in 1831), giving an increase of 79,708—being at the rate of 39'37 p.c. in the 10 years; whilst that of the pop. of the whole kingdom had only been 11½ p.c.! The proportion of females to males was as 1104 to 1000. The ratio of increase in total pop. in Glasgow had exceeded that of the foregoing 10 years by 17'1 p.c. This large increase was rendered all the more remarkable when the high mort. prevailing was taken into account.

Of the total pop., 80'53 p.c. were Scotch; 15'93 Irish; 2'23 English; and 0'18 foreigners; while as to 1'11, the nativity was unknown. It was also found that while of other nations the females exceeded the males, among the English in Glasgow the males were to the females as 16 to 15.

1852.—Mr. John Strang, LL.D., the City Chamberlain, pub.: *The Progress of Glasgow—Rep. on the Census of the City of Glasgow and the Suburbs, for 1851: and Rep. on the Mort. Bills of the City of Glasgow and the Suburbs for 1851.* From these a vast fund of detailed information may be obtained.

1853.—There was pub.: *Strang's Statistics of Glasgow for the Years 1850–51–52, showing its Progress in Pop., Wealth, and Manufactures*; wherein much valuable information is contained.

1879.—The pop. of this city, at the middle of this year, was estimated by the Reg.-Gen. at 578,156. Dr. Russell has expressed an opinion that in the early months of this year the pop. was actually decreasing in consequence of stagnation of trade.

Registration of Births, Marriages, and Deaths.—See *Bills of Mort.*

Sanitary Condition and Improvements.—The general sanitary condition of this city in earlier days has been already referred to under sub-heading *Mortality*; and will be again noticed under sub-heading *Vital Statistics*. We shall here review the modern improvements which have taken place.

1841.—Mr. Charles R. Baird prepared a Rep. "On the General and Sanitary Condition of the Working Classes and the Poor in the City of Glasgow"; wherein many most distressing details are given of the privations which a considerable number of these were exposed to at this period; and as a consequence of the great prevailing disregard to all sanitary precautions.

1860.—At a meeting of the Social Science Asso. held in this city this year, there were read the following papers relating to its vital statistics :

1. *Remarks respecting the Sanitary Condition of the Lower Localities of the City of Glasgow, chiefly as regards Overcrowding ; with some of the Causes leading thereto, and several proposed Remedies for the Removal or Mitigation of Existing Evils.* By W. M. Gill, Police Surgeon, Glasgow. The writer said, by way of preface, that he was anxious to bear testimony to the great improvements which had taken place in the preceding 12 years ; and then proceeded :

As an illustration, and typical of a state of things common in the centre of the city, I will take a square or area covered with buildings, and occupied as dwelling-houses. The square or area contains, after allowing for two large public works situated at one of its angles, nearly 2½ acres—every foot of which is built on except a few narrow spaces for passages, and having a pop. of the lower labouring class of about 2800. This gives about 1100 human beings to every acre, or 1 to four square yards. One house or building in this area, 28 by 14 yards, having a common stair, contains a pop. of 120 ; and as every foot of ground is built on, it gives only 3½ square yards to each inmate. Again, as respects the interior of the apartments : assuming that each adult ought to have about 700 cubic ft. of air for respiratory purposes, the greater number of the apartments in the square are so small and ill ventilated that in scarcely any is there anything approaching to an adequate supply of vital air. In some instances so small is this space, that even were the apartment well ventilated, which it seldom is, there is not a sufficient supply of air for one, while there may be three or more living and sleeping in the room.

He adds :

Assuming the boundaries of the city at 4 miles by 3, thereby giving an area of 12 square miles, and a pop. of 400,000, we have about 92 square yards to each individual. While this gives very large average space, as compared to what exists in the district to which I have referred, yet it is small as compared with Leeds, which is stated to have an area of 40 square miles with a pop. of 220,000, or 563 square yards to each individual. If this is correct as regards Leeds, it illustrates what I have already alluded to, of the different class of houses in the two places ; and shows that Glasgow ought not to be judged by the same standard as respects its sanitary condition.

There is much other information of value in this paper.

2. *On the Measures Required for Improving the Low Parts of the City, and the Value of Model Lodging-houses.* By James Watson, President of the Glasgow Stock Exchange. His introductory para. puts the case in a very plain way :

There is perhaps no city in the kingdom where the abodes of splendour and refinement contrast more strikingly with those of squalid poverty and wretchedness than the City of Glasgow. The palace and the hovel—the spacious mansion in the airy park or street, with every comfort and luxury ; the dilapidated tenement in our wynds and vennels, with its dark, dismal, and miserably furnished apartments, standing in the midst of a polluted atmosphere, and swarming from top to bottom with human beings of the most degraded class—severally present themselves to the observer, and form the subject of deep and serious reflection. Our city is distinguished for its wealth and commercial enterprise, its public buildings, its extensive manufactories, its numerous charitable, religious, and philanthropic institutions, and is ever foremost in all great and patriotic movements ; but it is not to be concealed that there are certain portions of it in a most frightful condition, and which, like so many plague spots, demand investigation, and call for legislation and reform.

These he proceeds to point out ; and he supports his case with many cogent examples and illustrations.

1866.—There was enacted the Local Statute 29 & 30 Vict. c. lxxxv.—*An Act for the Improvement of the City of Glasgow, and the Construction of New, and Widening, Altering, and Diverting of existing Streets in the said City, and for other Purposes*—which has led to great and permanent improvements in this city. A summary of these was presented in the *Lancet* (1 Aug. 1874), as follows :

In Glasgow the pop. had long been living huddled in masses—50,000 herding on 80 acres. Air and light were deficient in most of the houses, which had become the haunt of paupers and thieves. The promoters of the Act cut at the root of the evil. They borrowed with parliamentary sanction a million and a quarter. They obtained powers to pull down, rebuild, or sell—in fact to change the place. They imposed a rate first of 6d. in the £, then of 4d., next of 3d., intending to reduce it finally to 2d. They quietly bought up a large amount of property before they did anything, as the price would have risen had they begun to improve before completing their purchases. They bought with scarce a dispute one million's worth of property, and had re-sold at a profit £300,000 worth. . . . They cleared away fever houses ; they widened streets ; they ran new thoroughfares through the mass of buildings. They did not build themselves, but let the public know houses were wanted, and builders rushed in and erected whole streets. Empowered to demolish only when a house was unsafe, not when in an insanitary condition, they could have done nothing without the Act of 1866, which gave them powers of compulsory purchase and compensation. The city was widely benefited by the work. Brothels were reduced by 15 p.c. Haunts of thieves and fever preserves were broken up. Whisky-shops fell in number. The moral as well as the physical improvement was marked.

1876.—Dr. J. B. Russell, the Medical Officer of Health of this City, delivered before the Section of Public Medicine, at the ann. meeting of the British Medical Asso. held in Sheffield, this year, a presidential address, wherein was contained a large mass of details concerning the work accomplished under the Local Improvement Act of 1866, already noticed. See *Sanitary Record*, vol. v. p. 161.

Vital Statistics Generally.—The following may be regarded as supplemental to that which has been already stated under several of the sub-headings in this art. By means of the facts here given the picture of the past condition of this city, as compared with its present condition, is made more apparent.

1842.—In an able publication called *Facts and Figures*, issued this year, was the following para. regarding this city :

We do not know a more fearful pop. than that of Glasgow. Its deathly “wynds,” where filth, fever, penury, and crime seat themselves in its heart's core ; the spirit shops—nearly a tenth it is said

of all the houses; the pawn and resetting shops; the thefts, prostitutions, felonies, disease and deaths of Glasgow; and in spite of all these, its largely growing pop., have awakened much painful interest.

He then adds many details similar to those which we have quoted under other heads, as *Disease, Mort., Pop.*, etc.

1864.—It was during this year, we believe, that Mr. W. W. Watson, City Chamberlain, began to pub. [in continuation of those of his predecessor] an ann. *Rep. upon the Vital, Social, and Economical Statistics of Glasgow*. These reports are of the greatest possible value: for, being written in a popular style, they are within reach of the understanding of all classes: and even a glance at the T. of their contents goes far to show in an effective manner the differing elements upon which the social well-being of a community depends. These will vary in some details with the peculiar trade or manufacture of the place. Glasgow embraces a very wide range of occupations and employments.

1868.—A Committee of the Town Council appointed to consider the subject of intramural interment, prepared and submitted to the council at its meeting on the 16th July, a very elaborate report dated the 25th June. It therein described minutely the locality, capability, and condition of each of the various burial-grounds within the city boundary, and closed with a recommendation—"that the burial of the dead should be regulated by public authority, and that there seems no better way of securing this than by placing the whole arrangements in the hands of the Town Council, subject to such legal restrictions as will secure every respect being paid to the remains of the departed, and prevent at the same time any encroachment prejudicial to the health, and feelings of the living." The Rep. was favourably received, but for some purely technical reason, we believe, the matter did not then go forward.

1876.—It was announced that a series of official observations on the air of Glasgow was about to be begun. Dr. Russell, the Medical Officer of Health, had associated with himself Dr. J. Coats and Mr. Dixon, the former of whom would undertake the microscopic examination of the air-workings, and the latter the chemical. The results embody a series of facts of the highest value to Vital Statistics. See 1879.

1877.—The Report of the City Chamberlain for this year presented the following details: The number of births recorded during the year amounted to 21,092, and the deaths to 13,823, showing a difference of 7269, which might be regarded as the natural increase of the pop. and was the highest on record. The deaths when applied to an estimated pop. of 556,000, yield the simple average result of 2'486 p.c., or 24'86 p. 1000. The marriages recorded for 1877 numbered 4943, as against 4968 in 1876. In the second part of the Report was presented a series of tables connected with population, etc. Thus the united pop. of the municipal city in the middle of the year 1877 was 556,000, and it was estimated that the city, including its connected suburban districts, represented a united pop. of fully 720,000. The total municipal constituency for 1877-78 was 63,124, the Parliamentary constituency 60,582, and the School Board constituency 112,897. The gross rental of the municipal city in 1877 was £3,317,962. The quantity of gas manufactured by the corporation in 1877 amounted to 1,817,163,000 cubic feet; and as to water, also supplied by the corporation, there was distributed in and around the city during the year a daily average of 33,700,000 gallons, equivalent to about 45½ gallons p. head of the population within the district served. During the year 220 vessels, with a tonnage of 169,383, were launched on the Clyde. The value of these vessels amounted, at a moderate calculation, to three millions sterling, and this irrespective of the large sum which must have been expended on repairs. The Customs duties collected at Glasgow during the year amounted to £1,016,112 1s. 9d., and at Greenock to £54,109 6s. 3d., giving a total collected on the Clyde of £1,070,221 8s. During the year 1005 emigrants sailed from the Clyde.

1877-8.—A very able paper by Dr. Russell, the Medical Officer of Health for this City, appears in the *Trans. of the Philosophic So. of Glasgow* for these years. It treats of "Fifth-diseases"—mainly diphtheria, enteric fever, diarrhoea and croup; and presents some curious facts on the influence of civilized modes of living upon the four diseases named. The illustrations of the paper are drawn in the main from the facts deduced by the mort. experience of this city, and are worthy of most careful study. They will be referred to in some detail under the general title TOWN LIFE.

1878.—It was one of the purposes of the re-arrangement of the regis. districts of the City in 1874-5, that comparative obs. might be taken. The Rep. [*Remarks*, etc.] of the Medical Officer of Health for this year contains a series of T. "intended to develop the remarkable difference in the Vital Statis. of certain portions of the City, when set one against the other." Thus, taking the 24 statistical subdivisions first singly, there were 5 which showed death-rates respectively as follows: Kelvinhaugh and Sandfyord, 16 p. 1000; Blythswood, 18; Exchange, 19; Woodside, 19½; Springburn and Maryhill, 23; and 5 others which showed the highest rates, as follows: Bridgegate and Wynds, 41; Gorbals, 38; High Street and Closes (E.), 38; Brownfield, 38; High Street and Closes (W.), 36.

Taking the 24 subdivisions in groups, formed by combining subdivisions which pre-

sent general similarity of sanitary features [deaths in *Institutions* omitted in all], a broader basis of comparison is obtained :

Groups	Persons. to an Acre.	BIRTHS.		DEATH RATES.							Per-centage of Deaths under 1 Year to Births.
		Rate p. 1000 of Pop.	Per-centage of Illegiti- mate.	All Ages.	Under 1 Year.	1 and Under 5 Years.	Under 5 Years.	5 and Under 20 Years.	20 and Under 60 Years.	60 Years and Upwards.	
I.	69	26·7	6·9	17·8	131·2	37·5	59·7	7·6	10·2	57·5	13·6
II.	68	41·5	5·9	23·9	163·0	54·8	81·8	8·5	12·7	63·7	14·6
III.	226	38·4	9·1	28·6	191·7	71·5	101·8	9·8	15·0	72·0	18·1
IV.	308	40·3	14·5	36·2	234·3	88·4	125·0	11·2	22·8	84·4	19·1
	91	38	7·8	25·7	173·6	59·8	88·1	9·0	14·4	71·2	16·0

Dr. Russell thus summarizes these results :

There can be no doubt about the contrast presented by these groups of citizens of the same city in their vital phenomena. First as to their physical circumstances, as compendiously expressed in their density upon the soil, taking the two extremes—Group I. and Group IV.—there are 69 of the former to every acre in their district, as against 308 of the latter. Next, as to their vital statis, the former has a death-rate of 18, the latter of 36; the former has a birth-rate of 26, the latter of 40. Of the children born in the former 7 p.c., of those born in the latter 14½ p.c., were illegitimate. At all periods of life there is a great contrast in the death-rate—under 1 year it is 131 in Group I., and 234 in Group IV.; between 1 and 5 years, it is 37½ against 88½; between 5 and 20 years, 7½ against 11; between 20 and 60 years, 10 against 23; above 60 years, 57½ against 84½. Therefore, while no age is exempt from the death-producing influences, they show their greatest incidence in children between their 1st and 5th years; and in adults between their 20th and 60th years, which embraces the prime period of life. The number of children who died before the completion of their first year was 13½ p.c. of those born in the first group, against 19 p.c. of those born in the last.

Many other details of much interest, in the same direction, are given. There are few cities where the machinery for such obs. exist; and there certainly are few where such obs. are more needed, or likely to be productive of more benefit. There are some peculiarly interesting T. given, showing the proportion of those enrolled in Friendly Sos. among the deaths in each district. Taking the returns for the whole City there are 23 p.c. of the legitimate, and 6 p.c. of the illegitimate children dying under 1 year of age so enrolled; 52 p.c. of the legitimate, and 25½ p.c. of the illegitimate dying under 5 years; and 44 p.c. of all dying at 5 years and upwards who were members of these Sos.

1879.—We have noticed that in 1876 observations upon the air of the City were commenced. These were conducted down to 1878 by Dr. Dixon, in co-operation with the Medical Officers of Health. This important branch of obs. has now fallen under the immediate control of Dr. Dunnachie. His report for this year is chiefly relative to inclosed spaces and smoke. Speaking generally upon the question, it may be noted that Glasgow (following the example of Paris) has estab., and maintains, a series of stations at which the average condition of the air is continuously tested, night and day. It is found to be a well-ascertained fact that the air contains less impurity after a shower of rain than before it, due to the washing to which it had been subjected; hence it was inferred that an analysis of the rain would give a very reliable indication of the state of the air through which it had been passing, and that the degree of purity would vary with the length of time elapsing between the commencement of the shower and the times of collecting the different samples. Sulphur compounds are found to be predominant in the street air of Glasgow, and it is believed that smoke constitutes the chief cause of contamination of the air here.

A vast number of modern publications bearing upon public health, and the sanitary condition of the City, have been placed at our disposal by its Chief Health Officer, Dr. Russell; but we are only able to make use of these in a limited degree.

Water Supply.—The water-supply of this city is to be regarded as a model for all other cities. The scheme for bringing in the supply from Loch Katrine was completed in 1859 [works opened by the Queen 14 Oct.]. The original supply 25,000,000 gallons daily; but capable of supplying 50,000,000 gallons. Engineer J. F. Bateman, C.E.; cost about £918,000, independent of price paid for old water-works. The influence of this work upon the health of the City has been regarded as very great.

GLASGOW (CITY OF), MORT. T. FOR.—Under sub-sections *Bills of Mort.*, *Mort.*, and *Pop.* in the preceding art. we have reviewed the results of various obs., taken at different periods by several persons; as also the pop. of the city at various periods. The materials for the construction of Mort. T. were thus furnished, and led to the construction of the first complete Mort. T. for this city, of which we have next to give an outline. A later T. prepared by Mr. Neison (1845) will also be given.

1829.—Mr. James J. Duncan, then Manager of the *West of Scotland Ins. Co.* [name changed to *Scottish Amicable*], pub.: *Tables of the Prob. and Expectation of Male and Female Life in Glasgow, and the Value of Annuities on Single Lives at all Ages, distinguishing the Sexes, at the several rates of interest 3, 4, 5, and 6 p.c., deduced from the Glasgow Pop. and Mort. Bills, on an average of 6 years, from 1821 to 1827.*

In the preparation of his T. Mr. Duncan had assumed the pop. of the city at the close

of the year 1827 as being 180,000; and this prob. was very near the mark. The difficulties of accurately estimating the pop. of such a city were fully realized by him—thus:

In a commercial and manufacturing city like Glasgow, where there is such an influx of inhabitants from the country at certain ages, it is quite clear that the pop. must increase in a much greater proportion than if we merely take into account the ann. increasing number of births. While there is an extensive migration of inhabitants towards such a city, there is also a continual emigration from it; which emigration is confessedly greater in one year than another, arising from a greater or less degree of stagnation of trade, inducing operatives to seek that employment elsewhere which is not to be found at home. From these causes combined, it is extremely difficult to ascertain with any tolerable degree of precision, excepting by actual survey [enumeration], the pop. of any particular year.

He found on examining the census returns that the pop. of the city amounted in 1801 to 77,385, in 1811 to 100,749, and in 1821 to 147,043. In order to estimate the pop. correctly as at the end of 1827, it became necessary to calculate the annual progressive increase: and here he found that the rate which had prevailed over the greater part of the period under review had not been maintained at the latter portion of it, which leads him up to the following solution:

One cause for this may be found in the extensive emigration which took place from this city during the unusual depression which existed in the year 1826. This depression must have operated in two ways in preventing the usual increase of pop. during that year: first in causing many to leave the city and suburbs who had formerly resided there; and second in preventing many from migrating towards it in search of occupation, which was at that time nowhere to be had. That the former of these results did arise from this cause is proved by a memorandum furnished me from the records of the Committee estab. in that year for the relief of distressed operatives, by which it appears that the funds of that Committee paid the expenses of 3970 families, who were desirous of leaving this part of the country, but had not the means of removing themselves. This at an average of 4 to each family, shows that 15,880 persons emigrated at that time at the expense of the Committee. There are no means of ascertaining how many left the city for Ireland and America during the same year, at their own expense: but there is no doubt that the number must have been great—prob. not less than 4000 or 5000 persons.

After estimating the operation of these combined causes—and he might prob. have added the influence of privation upon the birth-rate—he arrived at the conclusion stated, viz. that 180,000 “is as safe an amount of pop. as can be fixed upon on which to deduce T. which are in any degree to form the data for annuity calculations.” But he modestly adds:

In proportion however as doubt or hesitation is felt as to the result of this mode of attempting to approximate to the true number, so must there be doubt and uncertainty as to the use, for practical purposes, of the reasoning and calculations founded thereon: and I therefore by no means give the following T. of the prob. and exp. of life in Glasgow as *perfectly ascertained and accurate data on which to found important calculations, but rather as an attempt to approximate as nearly as possible to such data, and that too upon the side of safety, as far as regards the operations of any So. formed for the assu. of lives: as I am satisfied that I have rather underrated as [?] than] overrated the pop. of the city in 1827.*

He adds:

For a proof of their accuracy or inaccuracy, we must wait with patience for the next Gov. Census of 1831, and if it shall then appear that the pop. of this city and suburbs, including the Barony Parish, amount in that year to nearly 238,800 souls, the following T. will give too unfavourable an account of the prob. and exp. of life; but should it amount only to about 220,000, they may be considered as approaching with tolerable accuracy to the real value, as far as an average of 6 years will afford us an opportunity of making them. But if spared in life and in health till that period arrives, it is my intention to make the calculation on an average of ten years in place of 6, and with the more correct data which shall then be before me, the accuracy or inaccuracy of the following T. will be fully demonstrated, and if necessary others given by which the value of annu. may be correctly ascertained.

As a matter of fact, the pop. of the city and suburbs in 1831 turned out to be 202,426: it is prob. therefore, on the author's estimate, that the T. may give a slightly too favourable view of the actual exp. of life. He explains that he did not take the decade 1811–21 as the foundation of his T. because the B. of Mort. for that period were not deemed entirely reliable. We believe Mr. Duncan never did construct the new or extended T. which he speaks of in the preceding para. He died in 1839.

In add. to the T. which follow, Mr. Duncan's tract contains the computed value (from these T.) of annu. on single lives at all ages, for each of the sexes, at the several rates of int. of 3, 4, 5 and 6 p.c. He adds by way of explanation hereon:

In them [the annu. T.] it will be observed that in one or two instances I have used a little liberty with the prob., in ascertaining the value of the annu. This was done to avoid the apparent inconsistency of, for example, age 90 of the males showing a lower value than age 91, which a strict adherence to the prob., as shown in the T., would bring out. As this liberty, however, has only been taken in one or two of these extreme ages, it can lead to no practical error.

It seems to be inferred from this that no other adjustment of the T. had been required or made? He explains finally—and certainly his laudable object deserves to be recorded, as being far in advance of the practice of managers of life offices at that period—his purposes in preparing these T.:

In conclusion, if the following T. for Glasgow, formed exclusively with a view to the interest of the Co. with the management of which I have the honour to be entrusted, and for the construction of which the Gen. Court of Directors have honoured me with a vote of thanks, should prove the means of correcting any errors, or of suggesting any improvement in the construction or practice of any So. formed for the assu. of lives, my object in the pub. of them will be fully attained.

The following are the T. presented in a combined form for the purposes of comparison and the saving of space :

GLASGOW T. of Mort. (Duncan, 1829).—*Males and Females.*

Ages.	MALES.			FEMALES.			Ages.
	Living.	Dying.	Expec.	Living.	Dying.	Expec.	
0	3000	475	34'12	2842	423	36'64	0
1	2525	286	39'44	2419	266	41'97	1
2	2239	79	43'42	2153	93	46'09	2
3	2160	63	43'99	2060	50	47'15	3
4	2097	54	44'29	2010	44	47'31	4
5	2043	46	44'45	1966	37	47'35	5
6	1997	25	44'46	1929	27	47'25	6
7	1972	24	44'02	1909	21	46'74	7
8	1948	17	43'56	1881	18	46'43	8
9	1931	15	42'94	1863	15	45'87	9
10	1916	13	42'27	1848	14	45'24	10
11	1903	12	41'56	1834	13	44'58	11
12	1891	12	40'82	1821	13	43'90	12
13	1879	12	40'07	1808	12	43'21	13
14	1867	12	39'33	1796	12	42'50	14
15	1855	13	38'58	1784	11	41'78	15
16	1842	14	37'85	1773	11	41'03	16
17	1828	16	37'13	1761	11	40'29	17
18	1812	16	36'46	1751	12	39'54	18
19	1796	18	35'78	1739	12	38'81	19
20	1778	19	35'13	1727	12	38'07	20
21	1759	20	34'51	1715	13	37'34	21
22	1739	21	33'90	1702	13	36'62	22
23	1718	22	33'31	1689	14	35'89	23
24	1696	22	32'73	1675	15	35'19	24
25	1674	23	32'16	1660	17	34'50	25
26	1651	24	31'60	1643	17	33'85	26
27	1627	24	31'06	1626	17	33'20	27
28	1603	24	30'51	1609	17	32'55	28
29	1579	23	29'97	1592	17	31'89	29
30	1556	21	29'40	1575	18	31'23	30
31	1535	21	28'80	1557	18	30'58	31
32	1514	20	28'19	1539	18	29'94	32
33	1494	20	27'56	1521	18	29'28	33
34	1474	20	26'93	1503	19	28'63	34
35	1454	21	26'29	1484	18	27'99	35
36	1433	20	25'67	1466	19	27'33	36
37	1413	21	25'03	1447	19	26'68	37
38	1392	22	24'40	1428	19	26'03	38
39	1370	22	23'78	1409	19	25'37	39
40	1348	22	23'16	1390	19	24'71	40
41	1326	21	22'54	1371	20	24'05	41
42	1305	22	21'89	1351	20	23'40	42
43	1283	22	21'26	1331	20	22'74	43
44	1261	21	20'57	1311	21	22'08	44
45	1240	22	19'96	1290	21	21'43	45
46	1218	23	19'31	1269	23	20'77	46
47	1195	25	18'67	1246	23	20'15	47
48	1170	26	18'06	1223	24	19'58	48
49	1144	26	17'46	1199	26	18'90	49
50	1118	27	16'86	1173	27	18'31	50
51	1091	27	16'26	1146	27	17'73	51
52	1064	28	15'66	1119	29	17'14	52
53	1036	29	15'07	1090	30	16'58	53
54	1007	31	14'49	1060	31	16'04	54
55	976	33	13'93	1029	31	15'51	55
56	943	34	13'40	998	31	14'97	56
57	909	33	12'89	967	30	14'44	57
58	876	34	12'35	937	31	13'88	58
59	842	33	11'83	906	31	13'34	59
60	809	33	11'29	875	31	12'79	60
61	776	34	10'75	844	32	12'25	61

Ages.	MALES.			FEMALES.			Ages.
	Living.	Dying.	Expec.	Living.	Dying.	Expec.	
62	742	33	10'22	812	33	11'71	62
63	709	36	9'67	779	35	11'18	63
64	673	41	9'16	744	37	10'68	64
65	632	43	8'73	707	37	10'22	65
66	589	43	8'33	670	37	9'75	66
67	546	41	7'94	633	37	9'29	67
68	505	40	7'54	596	37	8'84	68
69	465	38	7'15	559	36	8'39	69
70	427	37	6'75	523	38	7'93	70
71	390	38	6'34	485	40	7'52	71
72	352	36	5'97	445	42	7'15	72
73	316	37	5'59	403	43	6'84	73
74	279	40	5'24	360	43	6'60	74
75	239	36	5'03	317	38	6'40	75
76	203	33	4'84	279	33	6'20	76
77	170	28	4'68	246	30	5'97	77
78	142	25	4'50	216	27	5'73	78
79	117	20	4'36	189	25	5'48	79
80	97	17	4'16	164	23	5'24	80
81	80	15	3'94	141	21	5'01	81
82	65	12	3'73	120	19	4'80	82
83	53	11	3'46	101	16	4'61	83
84	42	9	3'31	85	15	4'39	84
85	33	8	2'98	70	11	4'22	85
86	25	6	2'78	48	9	3'92	86
87	19	4	2'50	39	8	3'70	87
88	15	4	2'03	31	8	3'44	88
89	11	5	1'59	23	6	3'20	89
90	6	3	1'50	17	4	3'15	90
91	3	1	1'25	13	4	3'08	91
92	2	1	1'00	9	2	2'94	92
93	1	1	0'50	9	2	2'88	93
94	.....	.....	.....	7	2	2'64	94
95	.....	.....	.....	5	1	2'50	95
96	.....	.....	.....	4	1	2'00	96
97	.....	.....	.....	3	1	1'50	97
98	.....	.....	.....	2	1	1'00	98
99	.....	.....	.....	1	1	'50	99

The following is an abstract of the T. of *Annuity Values*, deduced from the preceding Table :

Ages	MALES.				FEMALES.				Ages
	3 p.c.	4 p.c.	5 p.c.	6 p.c.	6 p.c.	5 p.c.	4 p.c.	3 p.c.	
0	16'280	13'590	11'603	10'093	10'381	11'977	14'092	16'982	0
5	21'947	18'391	15'732	13'693	13'964	16'106	18'918	22'713	5
10	21'715	18'534	15'773	13'787	14'121	16'223	18'954	22'591	10
15	20'622	17'551	15'193	13'343	13'856	15'842	18'394	21'744	15
20	19'531	16'758	14'597	12'882	13'437	15'283	17'626	20'656	20
30	17'721	15'479	13'676	12'206	12'527	14'082	16'003	18'413	30
40	15'180	13'540	12'176	11'031	11'356	12'583	14'056	15'843	40
50	11'969	10'922	10'019	9'237	9'641	10'509	11'519	12'705	50
60	8'585	8'015	7'506	7'051	7'675	8'217	8'830	9'525	60
70	5'322	5'071	4'839	4'626	5'256	5'533	5'838	6'174	70
80	3'284	3'174	3'070	2'972	3'670	3'817	3'975	4'145	80
90	0'952	0'937	0'922	0'908	2'221	2'284	2'350	2'419	90
93	0'000	0'000	0'000	0'000	1'898	1'943	1'990	2'039	93
99	.....	.....	.....	.....	0'000	0'000	0'000	0'000	99

We regard the investigation made by Mr. Duncan, and the results obtained, as having been of especial value at this period.

1836.—Mr. T. R. Edmonds prepared this year (from data supplied to him by the Committee on Churchyards in Glasgow) a T. of the ann. mort. p.c. in this city at quinquennial and decennial ages, during the 15 years 1821-35; and compared the same with

that prevailing during 18 years, 1813-30, in six large English towns, viz. York, Norwich, Plymouth, Hull, Portsmouth, Liverpool, and London, as follows :

Mort. between Ages	1813-30 Six Towns in England.	1821-35 Glasgow.	1813-30 London.	Mort. between Ages	1813-30 Six Towns in England.	1821-35 Glasgow.	1813-30 London.
0-5	8.63	8.10	8.27	60-70	5.83	6.04	7.34
5-10	1.03	1.24	1.08	70-80	12.10	13.57	15.23
10-20	0.73	0.76	0.60	80-90	24.62	23.81	29.91
20-30	1.39	1.17	1.07	above 90	42.72	42.55	33.59
30-40	1.56	1.57	1.52				
40-50	1.96	2.31	2.29	All ages.	2.95	2.83	2.84
50-60	3.00	3.50	3.61				

Further investigation showed that the rate of mort. for each sex had increased very considerably during the three respective quinquennial periods 1821-25, 1826-30, and 1831-5.

1835.—The art. in the Ency. Brit. (7th ed.) "*Mort., Human*," written by the late Mr. J. Milne, about this date, contained the following (p. 643) upon the mort. of this City:

	Years.	Period.	Died ann., one of	Mean Life.	Difference.
Glasgow, Males	10	1821-30	35.42	34.38	10.3
Females	10	1821-30	42.32	37.24	5.08
both sexes	10	1821-30	38.81	35.77	3.04

He gives as his authority, "Dr. Cleland's *Obs.*, and a *T. of Mort. formed from them by the Author of this Art.*" He says again, "The above-mentioned *T. of Mort.* for Glasgow, which the author has had by him several years, he expects to pub. soon;" and adds the following obs. on the results stated :

The high number in the column of differences for females in that place arises from the small mort. amongst them, which was occasioned principally by the great influx of healthy females between the ages of 15 and 30, at which period of life the rate of mort. amongst them was small—its minimum for them being in their 18th year.

Between the ages of 10 and 15 the number of the two sexes were just about equal, whilst between the ages of 15 and 30 the females were more numerous than the males in the ratio of 3 to 2; and this accounts for the greater number of females (42.32), out of which one died annually there; which necessarily raises the number out of which one died annually in the whole population of both sexes; and therefore the number in the column of differences (in the line numbered 10) for the whole pop. of both sexes in Glasgow.

We believe the *T. of Mort.* for Glasgow so prepared by Mr. Milne was never printed. The art. from which we quote was reprinted in the 8th ed. of the same work without alteration or explanation.

1845.—Mr. Neison, sen., in his *Vital Statistics*, pub. this year, gave a *T. of Mort.* for Glasgow, under the circumstances and with the objects detailed in our art. FRIENDLY SOS., MORT. AND SICKNESS EXPERIENCE OF (Vol. V. p. 35).

The following Tables show the data from which Mr. Neison's Mort. *T.* was deduced. *Pop. of GLASGOW for 1831 and 1841; with the Annual Rate of Increase during the Intermediate Period.* [Table O.]

Age.	MALES.			FEMALES.			Age.
	Pop. 1831.	Pop. 1841.	Ann. Rate of Increase.	Pop. 1831.	Pop. 1841.	Ann. Rate of Increase.	
Under 5	15,422	17,840	1.01467	14,855	17,544	1.01677	Under 5
5 — 10	13,127	14,552	1.01035	12,580	14,837	1.01664	5 — 10
10 — 15	10,491	14,252	1.03111	10,720	14,541	1.03092	10 — 15
15 — 20	8,489	13,677	1.04882	12,256	16,931	1.03281	15 — 20
20 — 30	15,177	28,304	1.06430	23,008	32,778	1.03602	20 — 30
30 — 40	12,179	18,890	1.04487	14,240	20,706	1.03814	30 — 40
40 — 50	8,685	12,047	1.03326	9,329	12,804	1.03220	40 — 50
50 — 60	5,549	5,991	1.00771	6,099	7,034	1.01436	50 — 60
60 — 70	3,228	3,364	1.00413	3,692	4,462	1.01911	60 — 70
70 — 80	1,090	1,282	1.01630	1,502	1,720	1.01365	70 — 80
80 — 90	260	256	1.00140	385	447	1.01517	80 — 90
90 — 100	26	22	1.01670	32	41	1.02527	90 — 100
100 & upw.	1	1	1.00000	4	1	1.14855	100 & upw.
Total	93,724	130,478	1.03364	108,702	143,846	1.02641	Total.

[The first *T.* on p. 411 should be read here.]

It seems necessary here to state, for the sake of clearness, that Mr. Neison's investigations were based upon the returns made by F. Sos.; but where the results so obtained were found to differ materially from what was believed to be the experience of the general pop. of the locality under review, further investigation was made. The present was a case in point. Mr. Neison says (p. 78) :

But as some curiosity may naturally be excited by the marked difference in the value of life, as shown in the preceding T. [Vol. V. p. 34, *Ins. Cyclo.*], between the Scotch and English Cities, it has been thought of sufficient importance to form Mort. T. for the general pop. of the City of Glasgow, in order to compare the results with English cities. These latter, viz. O, P, Q, R,—have been formed exactly in the same manner as tables A, B, C, D. It is therefore not necessary to enter further into this part of the question, than to state that the basis of the T. are the Mort. B. for the city of Glasgow for the ten years 1832-41, and the pop. as enumerated in 1831 and 1841.

GLASGOW.—Total of the Pop. as calculated for the 30th of June in each of the Years 1832-41, inclusive; with the Sum of the Deaths for the corresponding Years, as given in the Mort. Bills; and the Mort. p.c. during the same Period.—[Table P.]

Age.	MALES.			FEMALES.			Age.
	Pop.	Deaths.	Mort. p.c.	Pop.	Deaths.	Mort. p.c.	
Under 5	167,389	18,846	10'6613	163,155	16,304	9'9929	Under 5
5 — 10	139,087	2,331	1'6759	138,056	2,134	1'5457	5 — 10
10 — 15	127,201	989	'7775	127,512	973	'7630	10 — 15
15 — 20	111,753	1,209	1'0818	147,340	1,147	'7777	15 — 20
20 — 30	218,158	3,211	1'4718	281,626	3,292	1'1689	20 — 30
30 — 40	156,737	3,336	2'1284	176,405	3,228	1'8300	30 — 40
40 — 50	104,660	3,276	3'1301	111,731	3,001	2'6859	40 — 50
50 — 60	57,928	2,552	4'4054	66,086	2,628	3'9766	50 — 60
60 — 70	33,033	2,564	7'7619	41,084	2,651	6'4526	60 — 70
70 — 80	11,942	1,956	16'3791	16,212	2,244	13'8416	70 — 80
80 — 90	2,580	780	30'2325	4,190	1,012	24'1527	80 — 90
90 — 100	238	92	38'6554	368	155	42'1196	90 — 100
100 & upw.	10	9	90'0000	19	15	78'9476	100 & upw.
Total	1,130,716	41,151	3'6393	1,273,784	38,784	3'0447	Total

The following T. of Male and Female Life embody the results given by Mr. Neison in his Tables Q. and R.:

GLASGOW.—General Pop. MALES (Neison, 1845).

Ages.	Living.	Dying.	Mort. p.c.	Specific Intensity.	Expec.	Ages.	Living.	Dying.	Mort. p.c.	Specific Intensity.	Expec.
10	100,000	1316	1'3157	75'988	37'3954	56	36,836	1669	4'5303	22'075	11'7116
11	98,684	1121	1'1360	88'028	36'8874	57	35,167	1682	4'7827	20'907	11'2426
12	97,563	1080	1'0047	99'502	36'4055	58	33,485	1700	5'0768	19'697	10'7822
13	96,583	890	'9214	108'531	35'6688	59	31,785	1720	5'4125	18'474	10'3322
14	95,993	848	'8863	112'829	34'9959	60	30,065	1728	5'7482	17'397	9'8946
15	94,845	853	'8993	111'198	34'3043	61	28,337	1724	6'0838	16'437	9'4675
16	93,992	902	'9601	104'156	33'6111	62	26,613	1708	6'4195	15'576	9'0485
17	93,090	948	1'0186	98'135	32'9317	63	24,905	1682	6'7551	14'804	8'6347
18	92,142	990	1'0746	93'023	32'2656	64	23,223	1647	7'0907	14'102	8'2239
19	91,152	1028	1'1282	88'652	31'6106	65	21,576	1625	7'5315	13'277	7'8135
20	90,124	1063	1'1794	84'818	30'9655	66	19,951	1612	8'0776	12'379	7'4092
21	89,061	1094	1'2282	81'433	30'3291	67	18,339	1601	8'7280	11'456	7'0165
22	87,967	1123	1'2769	78'309	29'7000	68	16,738	1588	9'4854	10'543	6'6398
23	86,844	1151	1'3257	75'415	29'0776	69	15,150	1568	10'3472	9'662	6'2834
24	85,693	1178	1'3744	72'780	28'4615	70	13,582	1522	11'2083	8'921	5'9510
25	84,515	1206	1'4265	70'077	27'8512	71	12,060	1458	12'0906	8'271	5'6390
26	83,309	1235	1'4820	67'476	27'2472	72	10,602	1375	12'9723	7'710	5'3457
27	82,074	1265	1'5411	64'893	26'6496	73	9227	1280	13'8740	7'210	5'0678
28	80,809	1296	1'6036	62'344	26'0590	74	7947	1171	14'7397	6'784	4'8035
29	79,513	1328	1'6695	59'880	25'4756	75	6779	1064	15'7061	6'365	4'5472
30	78,185	1357	1'7354	57'637	24'8998	76	5712	957	16'7573	5'967	4'3011
31	76,828	1384	1'8013	55'525	24'3308	77	4755	852	17'9132	5'580	4'0661
32	75,444	1409	1'8660	53'562	23'7679	78	3993	748	19'1539	5'222	3'8446
33	74,035	1431	1'9328	51'733	23'2108	79	3155	648	20'5353	4'869	3'6376
34	72,604	1451	1'9982	50'050	22'6584	80	2507	550	21'9206	4'562	3'4485
35	71,153	1473	2'0694	48'333	22'1102	81	1957	451	23'3060	4'290	3'2772
36	69,680	1496	2'1465	46'577	21'5670	82	1501	371	24'6913	4'050	3'1209
37	68,184	1520	2'2294	44'863	21'0293	83	1130	295	26'0766	3'834	2'9814
38	66,664	1545	2'3180	43'141	20'4974	84	835	229	27'7386	3'479	2'7491
39	65,119	1571	2'4128	41'442	19'9718	85	606	174	29'0677	3'343	2'6551
40	63,548	1598	2'5076	39'872	19'4532	86	432	129	30'5662	3'229	2'5726
41	61,954	1612	2'6024	38'432	18'9409	87	303	94	31'9770	3'127	2'5047
42	60,342	1628	2'6972	37'078	18'4335	88	209	67	32'7593	3'055	2'4507
43	58,714	1659	2'7919	35'817	17'9307	89	142	47	33'6010	2'970	2'4158
44	57,075	1654	2'8975	34'507	17'4313	90	95	32	34'4439	2'904	2'3889
45	55,421	1668	3'0096	33'223	16'9366	91	63	21	35'2862	2'834	2'3639
46	53,753	1682	3'1282	31'969	16'4466	92	42	14	36'1285	2'765	2'3500
47	52,071	1694	3'2535	30'731	15'9618	93	28	10	36'9708	2'705	2'3223
48	50,377	1706	3'3853	29'542	15'4817	94	18	6	37'815	2'586	2'0761
49	48,671	1710	3'5128	28'466	15'0061	95	12	4	38'6715	2'425	1'8750
50	46,961	1710	3'6404	27'473	14'5350	96	8	3	39'5207	2'240	1'7000
51	45,251	1705	3'7679	26'539	14'0654	97	5	2	40'3744	2'044	1'5000
52	43,546	1696	3'8954	25'674	13'5905	98	3	1	41'2244	1'850	1'2000
53	41,850	1684	4'0229	24'857	13'1273	99	2	1	42'0794	1'689	1'0000
54	40,166	1667	4'1504	24'096	12'6507	100	1	1	42'9384		
55	38,499	1663	4'3195	23'148	12'1831						

GLASGOW (CITY OF), MORT. T. FOR.

GLASGOW.—General Pop. FEMALES (Neison, 1845).

Ages.	Living.	Dying.	Mort. p.c.	Specific Intensity.	Expec.	Ages.	Living.	Dying.	Mort. p.c.	Specific Intensity.	Expec.
10	100,000	1433	1'4327	69'784	39'9471	56	42,123	1705	4'0478	24'704	12'9541
11	98,567	1258	1'2761	78'370	39'4286	57	40,418	1717	4'2479	23'540	12'4794
12	97,309	1121	1'1515	86'806	38'9319	58	38,701	1731	4'4718	22'361	12'0109
13	96,188	1018	1'0588	94'429	38'3797	59	36,970	1745	4'7194	21'191	11'5499
14	95,170	950	'9979	100'210	37'7849	60	35,225	1750	4'9670	20'133	11'0971
15	94,220	724	'7687	130'090	37'1609	61	33,475	1746	5'2146	19'175	10'6513
16	93,496	722	'7717	129'584	36'4448	62	31,729	1733	5'4622	18'308	10'2099
17	92,774	727	'7838	127'584	35'7245	63	29,996	1713	5'7098	17'513	9'7709
18	92,047	741	'8051	124'208	35'0027	64	28,283	1685	5'9574	16'787	9'3324
19	91,306	763	'8356	119'675	34'2827	65	26,593	1677	6'3033	15'865	8'8919
20	90,543	793	'8755	114'220	33'5674	66	24,921	1682	6'7474	14'821	8'4564
21	89,750	830	'9244	108'180	32'8596	67	23,239	1694	7'2898	13'717	8'0322
22	88,920	865	'9733	102'743	32'1616	68	21,545	1704	7'9104	12'642	7'6248
23	88,055	900	1'0222	97'847	31'4726	69	19,841	1716	8'6493	11'562	7'2367
24	87,155	934	1'0711	93'371	30'7228	70	18,125	1732	9'3882	10'652	6'8745
25	86,221	969	1'1235	88'968	30'1206	71	16,423	1663	10'1271	9'872	6'5351
26	85,252	1005	1'1793	84'818	29'4573	72	14,760	1604	10'8660	9'200	6'2150
27	84,247	1043	1'2385	80'710	28'8027	73	13,156	1529	11'6249	8'606	5'9118
28	83,204	1083	1'3012	76'864	28'1575	74	11,627	1438	12'3638	8'091	5'6235
29	82,121	1123	1'3673	73'153	27'5223	75	10,189	1311	13'1612	7'599	5'3466
30	80,998	1161	1'4334	69'784	26'8970	76	8,848	1240	14'0170	7'133	5'0812
31	79,837	1197	1'4995	66'667	26'2808	77	7,688	1136	14'9312	6'698	4'8278
32	78,640	1231	1'5654	63'898	25'6732	78	6,472	1029	15'9039	6'289	4'5875
33	77,409	1263	1'6315	61'275	25'0735	79	5,443	922	16'9350	5'935	4'3602
34	76,146	1293	1'6976	58'893	24'4811	80	4,521	812	17'9661	5'565	4'1474
35	74,853	1323	1'7676	56'561	23'8953	81	3,709	705	18'9972	5'263	3'9457
36	73,530	1354	1'8415	54'289	23'3103	82	3,004	602	20'0283	4'993	3'7547
37	72,176	1384	1'9195	52'083	22'7443	83	2,402	506	21'0594	4'748	3'5703
38	70,790	1417	2'0012	49'975	22'1798	84	1,896	419	22'0905	4'527	3'3898
39	69,373	1448	2'0868	47'916	21'6227	85	1477	344	23'2747	4'297	3'2096
40	67,925	1476	2'1724	46'041	21'0730	86	1133	279	24'6121	4'063	3'0322
41	66,449	1500	2'2580	44'287	20'5300	87	854	223	26'1025	3'831	2'

An inspection of the T. of *Males* reveals the fact that of the male pop. of Glasgow then under obs. one-half of those alive at the age of 10 was cut off between the ages 48-9—being

20	years earlier than among F. Sos. in the Rural Districts of England.
19	" " " " " " Scotland.
17	" " " " " " Town Districts of Scotland.
16	" " " " " " England.
13	" " " " " " City Districts of England.
5	" " " " " " Scotland.
3	" " " " " " Clerks, which was the worst class of
	results arrived at by Mr. Neison's other obs.

A comparison of the preceding T. reveals the fact that the difference between the equation [Mr. Neison's usual mode of comparison] for age 10 between the two sexes, in the whole pop. of Glasgow, is 3'125 years; while in the gen. pop. of E. and W. it was a little above 1 year. "This (says Mr. Neison) suggests the mention of another feature which presents itself in this inquiry. *It appears that the higher the absolute value of life in any class of results, the less distinction will be found between male and female life.*" He illustrates this point as follows:—

Equation of life for age 10.	{	F. Sps. in E. and W.	{	Females = 56'749	341 of a year.	
			{	Males = 56'408		
	{	Total pop. of E. and W.....	{	Females = 53'554		
			{	Males = 52'308		
	{	Whole pop. of Glasgow	{	Females = 41'346		1'249
			{	Males = 38'221		3'125

He further points out that if comparisons were made between the sexes in the intermediate classes of results, a development of the same feature would be seen, "as has

already been stated, where the duration of life is reduced below its average standard by the prevalence of unhealthy occupations, the influence will be more strongly felt in the male than in the female sex." He adds:

If the *expectation* of life for the City of Glasgow . . . be now referred to, the remarkable depreciation in the duration of life there will appear somewhat startling, *No T. of Mort. hitherto pub. has shown anything like so low an estimate.* Liverpool has been frequently referred to as an example of the short duration of life; but a comparison of the *expect.* of male life for Liverpool . . . with the results of Table R. will show, at age 30, a higher value by 3'10 years; at age 40, 2'548 years; and at age 50, 1'535 years.

He proceeds to remark that a pop. like that of this city is subject to remarkable fluctuations, "showing an extreme difference in some years of about 68 p.c., or a mean fluctuation of about 32 p.c." An inspection of the total male deaths for all ages, for each of the years 1832-42, reveals the actual fluctuations:

Total deaths in 1832	.....	4811	Total deaths in 1837	.....	5423
" 1833	.....	3229	" 1838	.....	3429
" 1834	.....	3255	" 1839	.....	3898
" 1835	.....	3726	" 1840	.....	4470
" 1836	.....	4334	" 1841	.....	4514

It was further to be seen that these remarkable fluctuations *were chiefly due to the mort. in mature life*, and not to the mort. in infancy, "as some writers had believed." Thus:

Year.	Ages 20 to 50.		Deaths first year of Life.	Year.	Ages. 20 to 50.		Deaths first year of Life.
1832		1795	332	1837	.....	1991	371
1833		902	306	1838	.....	1010	336
1834		923	313	1839	.....	966	318
1835		885	365	1840	.....	1346	404
1836		1279	115	1841	.....	1278	381

These figures show that while the extreme difference in the mort. from ages 20 to 50 is 125 p.c., for the first year of life it is only 32 p.c. If the mean fluctuations for ages 20 to 30 be taken, it will be found to be 53 p.c., while that for the first year of life is only 14 p.c. A comparison of the mort. of female life would furnish similar results. "Notwithstanding the inferior numbers in infant life, the fluctuation is confined within narrower limits than the mort. of mature life. And this law (continues Mr. Neison) is in obedience to the doctrine of prob., when applied to any other subject, as well as to the mort. of life. For whenever the intensity which determines any result increases—or in other words when the prob. of any event approaches unity—so also will the fluctuations in a series of events be reduced in amount." Mr. Neison concludes his remarks upon his Glasgow T. as follows:

It is evident from the preceding results of the mort. in Glasgow, that a T. of the *expect.* of life calculated for one period of years—for example, the 3 years 1833-45—would differ widely from a T. founded on the results of the succeeding period of 3 years; and that the next succeeding period of 3 years would also differ in a marked degree from either of these: it has on that account been thought the better course to embrace the results of the whole 10 years. On a previous occasion a T. of the *expect.* of life for the 5 years 1836-40 had been calculated, and the results were for ages 20 = 27'624; 40 = 21'711; 50 = 16'590, bringing the *expect.* of life above that given for the whole pop. of Liverpool, in the 5th Rep. of the Reg.-Gen. It would, therefore, be rash to conclude that the public health of Glasgow is inferior to that of Liverpool: for if the same means existed of calculating the mort. of Liverpool during the 10 years to which the results of Glasgow relate, it might then be found that the *expect.* of life, on an average of that number of years, was overstated by the Reg.-Gen., whose figures were derived from the mort. of one year only.

A comparison of the *expect.* of male with female life in Glasgow, as shown by the preceding T., results in favour of female life, as elsewhere. Thus:

DUNCAN.				NEISON.			
	Age 30	Age 40	Age 50		Age 30	Age 40	Age 50
Females	31'23	24'71	18'31	Females	26'89	21'07	15'86
Males	29'40	23'16	16'86	Males	24'90	19'46	14'54
Difference	1'83	1'55	1'45	Difference	1'99	1'61	1'32

We are not aware of any later Mort. T. for this city having been prepared. The results heretofore furnished having proved alike instructive and unique, we shall look forward with much interest to the appearance of a new Mort. T.

GLASGOW ANNUITY SO.—Founded in Glasgow, 4 Jan. 1808, for the purpose of granting either immediate or deferred annu. to its members, in consideration of graduated contributions, on the mut. plan. All meetings of the So. were required to be held "within the Religious Institutions Rooms, or Trades Hall, or Merchants Hall, all in Glasgow." The operations of the So. were orig. based upon the *Northampton T.*

1832.—The So. was enrolled under the Friendly Sos. Acts.

1845-6.—At the periodical quinquennial investigation made at this date, a searching scrutiny was instituted by the Treasurer of the So. into its financial condition. This was followed by an investigation by Mr. William Spens, and Mr. Alex. Borland, then Actuaries of the Commercial Travellers' So. of Scotland. On the recommendation of

the latter, "a comprehensive elementary corrective was applied," which is explained by what follows :

He suggested the relinquishment of the Northampton probabilities, as fallacious and perilous to the So., and the adoption of the Carlisle prob., money at 4 p.c., as the now generally received and approved regulator of annuity contingencies. According to this standard he recalculated and ascertained the whole claims on the So. by the members, in the ratio of their contributions respectively, and brought out satisfactorily that the funds, though inadequate to the delusive expectations encouraged by the Northampton T., were sufficient for the less sanguine, but more truthful expectations indicated by the Carlisle T. There was thus afforded to the members a full and fair return for their contributions. . . .

This is from the preface to the ed. of the Rules pub. in 1847. Mr. Borland's rep. was adopted by an extraordinary meeting held 19 July, 1846; and the rules, etc., were amended accordingly. From these same rules we learn in detail the duties of the office of "Factor," concerning which opinions in England are usually rather vague :

23. The Factor shall have charge of the So.'s heritable properties, let the houses, receive and discharge the rents; report beforehand to the Committee of man., and as instructed attend to the execution of all the necessary repairs; effect and maintain ins. against fire, to the extent at least of two-thirds of the value of the subjects, if held in property, and to the extent of the loan if held in security; settle taxes and stated charges; pay accounts after being passed by the Committee of man.; from time to time trans. to the Treasurer's hands all sums collected by him, when amounting to £10; keep correct rental books, and an account current book for each property respectively, and a gen. account current with the Treasurer, and account to him for the bal. after deduction of the Factor fee. The Factor shall when required attend all the monthly meetings of the Committee of man., have his salary or factor's fee paid by them, and find security for his intromissions to their satisfaction. In the event of the sale of the So.'s household property, or greater part thereof, the office of Factor shall merge in the Treasurer.

There were separate T. of contributions for male and female members.

1871.—The So. paid in annuities this year £956 12s. 1d.; and the value of all the annu. in force at the end of the year was £10,513 5s. 6d. The assets (which consisted in great part of ground rents) were valued at £10,712 15s. 5d.

1875.—The So. now consisted of 54 members; its funds were £9386—being £173 14s. 5d. p. member.

The So. is gradually dying out, after having rendered very good service in its day and generation.

GLASGOW FIRE INS. ASSO. (No. 1).—Founded in that city prob. near the close of the last century. It is one of the few ins. inst. whose date of estab. we have not been able to define, or history to trace. The fire duty return in 1805 was £1955 12s. 6d.

GLASGOW FIRE INS. CO. (No. 2).—Founded in Glasgow in 1836. Its bus., which was small, was trans. to the *Scottish Provincial* in 1842. We find no special details concerning it, except that the fire ins. duty on its bus. for the year ending 11 Nov. 1842, was £2635 7s. 6d.

GLASGOW INDUSTRIAL ASSU. SO.—Founded in Glasgow in 1875, and enrolled under the Friendly Sos. Acts. At the close of the year of its estab. it returned itself as having 3605 members, but the amount of its funds was not stated. Its later returns we do not find recorded.

GLASGOW (LIFE) ASSU. CO.—Founded in Glasgow in 1845, with an authorized cap. of £500,000. The Co. was instituted "for assu. on lives and survivorships, endowments for children, for the purchase and sale of rev. and contin. rights, and for granting loans and annu." The prosp. said :

The Deed of Constitution of the So. has been prepared under the advice of the ablest legal authorities, and the principles on which the T. of the Assu. are formed, have been adopted after a most minute examination of the principles and practice of estab. offices. In the plan of dividing profits there is combined the advantages of the most approved and equitable systems; and the directors confidently anticipate that the liberal constitution and rates, which a strict economy in the management of the Assu. enables them to carry out, will afford encouragement to the more general extension of Life Assu. among all classes of the community.

Loans on personal security, secured by bond and promissory note, were among the features of the Co.; substitution of lives, surrender values, etc. Mr. Henry Rhind was Man. and Act.

The bus. of the Co., which was small, was trans. to the *Edinburgh* life in 1848.

GLASGOW LOTTERIES.—Many of the improvements in this city in the early part of this century were carried out by means of funds raised by Lotteries. These "Glasgow Lotteries" were authorized by licence of Parl. to the Commissioners for the Improvement of the City. The 3rd and final Glasgow Lottery was drawn in Lond. at Coopers' Hall, 28 Aug. 1834. They were prohibited by 4 Wm. IV. c. 37. [LOTTERIES.]

GLASGOW MARINE INS. CO.—Founded in that city in 1839, under a contract of copartnery dated 19 March, for the purpose of "carrying on the bus. of ins. broking, marine underwriting, and of effecting ins. on ships or vessels at sea, or going to sea, goods and merchandize, and other things on board thereof, and otherwise generally, as is customary and legal, against the several dangers or perils of the sea, or connected therewith."

In 1843 the Co. obtained a special Act of Parl.—*An Act to enable the Glasgow Marine Ins. Co. to sue and be sued; and for other purposes relating to the said Co.*—which received the Royal Assent 22 Aug.

The Co. has long since passed out of existence.

GLASGOW PLATE GLASS INS. CO. UNLIMITED.—Founded in that city in 1871, with an authorized cap. of £ in shares of £. The prosp. contained the following: "This being a native Co., insurers with it have special facilities for transacting their bus., and securing reparation in case of breakage." Again: "Pol. transferred from other offices without additional cost or trouble to the insured." Mr. James Whilton is Man. and Sec.

GLASGOW RATE AND SALVAGE COMMITTEE.—This important Committee has been referred to under GLASGOW, sub-heading *Fire Protection*; but it is desirable to record the following facts. The Rate Committee as now incorporated was estab., we believe, as far back as 1847, under the designation of "The Fire Ins. Offices' Committee." Its function was to rate the various risks under the local tariffs. In 1873 the Tariff Offices appointed a Committee to estab. a Salvage Corps, in view of attending fires and protecting any property in which the offices may be interested. Early in 1876 these Committees were fused, under the above title. The Committee consists of 15 members, viz. 5 elected by the Southern Committees, 4 by the Northern, 4 by the Scottish Committee, and a representative from each of the two local offices.

GLASGOW TONTINE.—In 1781 a considerable improvement was effected in the City by the erection of the "Tontine Coffee-House"—the scheme being actually carried out by means of a Tontine. In 1873 the "New Hall Assembly Rooms" were built by means of a Tontine subscription.—See TONTINES, these dates.

GLASHOFF, HERR C.—Published in Hamburg, 1792–1802: *Sammlung einiger bei der Schiffahrt und dem Assecuranz-Geschäfte vorkommenden Fälle*, 4 hfte.

GLASS INSURANCE.—This branch of Ins. appears to be entirely of modern origin. The manufacture of glass is of great antiquity. Pliny says it was first made in Syria. The Egyptians are said to have learned the art from Hermes. Glass houses were erected in Tyre. The Romans used glass in the time of Tiberius; and the ruins of Pompeii attest to its use early in the Christian Era. Glass was known in England about A.D. 676, and was manufactured at Crutched-friars (Lond.), according to Stow, in 1557. As soon as this admirable invention (for our variable climate) gave indications of coming into general use, the Gov. put its blighting hand upon it, for fiscal purposes. The duty upon glass windows was first levied in 1695; repealed 1698; re-imposed 1745; and only finally remitted in 1845. The spurt which took place immediately after this last event (typified as it was by the Crystal Palace of 1851) led to the introduction of Glass Ins.

In the first instance the practice of ins. was limited to plate glass. This branch of manufacture for coach windows, looking glasses, etc., had been carried on at Lambeth, by Venetian artists (introduced under the patronage of Villiers, Duke of Buckingham), since 1673; and in Lancashire since 1773; but the fenishish ingenuity which had suggested that all windows beyond a certain prescribed size should be chargeable with double, or treble, duty, prevented its general adoption in dwellings; and its use being thus limited, the price prevented its more general use in shop-fronts, which were exempted from fiscal imposts. The French greatly improved the manufacture of plate glass, and adorned Paris with large squares early in this century. British sheet glass was manufactured in Birmingham about 1832. The value of light and air, in a sanitary point of view, has given an important stimulus to the increased use of glass in dwellings and public institutions.

The bus. of Glass Ins. once introduced, spread with considerable rapidity, as will be seen from the following historical outline. It has indeed become a necessity alike to trade as to art. The introduction of tempered or toughened glass (by plunging the heated metal into a hot bath of oleaginous or alkaline compounds) in 1875, and its subsequent very general use in articles of domestic use, does not seem likely to interfere with the progress of the bus. It is claimed that this is by no means a new invention.

Points arising in the practice of the bus. will be considered in a separate art.

1852.—The *Plate Glass Ins. Co.* was founded in London. It had for its object exclusively the ins. of "Plate Glass," and speedily obtained a considerable bus. In the first year of its existence the Co. replaced between 500 and 600 breakages, involving cash compensation of over £2,000. The Co. at a very early period estab. branches in New South Wales (Sydney), Australia, New York, etc. We believe the limitation of its bus. to the ins. of plate glass only was speedily departed from.

1853.—The *General Indemnity Ins. Co.*, founded this year, had a "Plate Glass" branch, but we believe its operations were of a limited character. It had no new features; nor was this branch mentioned in the orig. prosp.

The *Universal Provident Life*, founded this year, also had a branch for Plate Glass. This portion of its bus. became ultimately trans. to the *Plate Glass Ins. Co.*

But the great event of this year (1853) in the matter of Glass Ins. was the scheme put forward by the *Times Fire*, under its "Household Glass Department"; the details of which were set forth in its prosp. as follows:

"This Co. insures against breakage or damage caused by accident, explosion, riots, or hail, plate or other glass comprised in the following articles of furniture, viz.: lamp in hall; fanlight over street door. In dining rooms—all looking glasses, mirrors, or glass in panels or in sideboards, or in picture frames. In drawing rooms—pier, mantel, and

other looking glasses, the body of glass chandeliers (not globe or burner glasses), console glasses, panels in cheffoniers, shades to ornaments (not clocks), glass in pictures. In bed-rooms—swing glasses, cheval glasses, looking glasses, servants' looking glasses. Decanters not exceeding £2 a pair. All the windows in the house (except skylights), whether of plate or other glass." And it proceeds :

It will be seen, therefore, that this Co. assures not only the windows, but also nearly every description of valuable household glass, against those accidents which are, unfortunately, of too frequent occurrence.

The Directors, in assuring the windows of a house of say twenty windows, feel convinced that the premium charged, viz. 10s., will be barely sufficient for the windows alone, and that a large average only will enable them to transact business at that rate.

Every precaution has been taken to save trouble to the insured in order to effect an assurance, therefore, *neither survey, proposal, or declaration as to value is required.*—*The number of glasses, etc., in the house, is immaterial.*

All that is necessary is the payment of the premium, upon the receipt of which the Agent at once delivers the policy, filling in the name and address of the insurer, *and all the things in the house of the description above enumerated are from that moment covered by the policy of insurance.*

The insured may exchange his glasses, mirrors, etc., purchase new ones, or increase the number of the things insured, without giving any notice to the Company; the policy covering all that the house contains, or may contain, of the things insured.

The ordinary trouble attending insurances is thus avoided; and equal facilities are offered with respect to the claims for breakage, etc.; for instance :

An insurer, upon a breakage occurring, if the amount of damage be under £2, may at once make good and replace the same, sending to the Agent the glazier's or upholsterer's receipt for the amount paid.

This assurance applies to private dwelling-houses only; the upper part of the houses over shops, if used exclusively as dwelling-houses, being considered as such; shops, public-houses, show-rooms, etc., being separately assured by the Plate Glass Department of this Co.

Any kind of glass which may be broken or cracked at the time of effecting the policy is not covered by this assurance.

We believe the scheme was not matured into this shape for several years after the Co. had been in operation. Our attention was drawn to it at an early date; and we took out a pol., of which the following is a copy :

Household Glass Policy. The Times Fire Assu. Co., Offices, 32, Ludgate Hill, London. Cap. £100,000. Estab. under Act of Parliament. Annual payment made *4th February, 1856, 10s.* Whereas *Cornelius Walford, jun., Esq., of Woodbine Villa, Witham, Essex* (hereinafter called the said insured), having paid the sum stated in this agreement to the *Times Fire Assu. Co.*, and agreed to pay, or cause to be paid, to them at their Office the sum of *Ten Shillings* on the *4th day of February* in each year during the continuance of this policy, for ins. from loss or damage by or from any cause whatsoever, except fire, breakage during removal, repairing, decoration, or alteration of premises, of the glass in each and every article of furniture now in the above-named house, or which may be placed in the said house during the continuance of this policy, known by the following names or description, viz. :

Lamp in hall; fan light over street door. In dining rooms—all looking glasses, mirrors, or glass in panels or in sideboards, or in picture frames. In drawing rooms—pier, mantel, and other looking glasses, the body of glass chandeliers (not globe or burner glasses), console glasses, panels in cheffoniers, shades to ornaments (not clocks), glass in pictures. In bedrooms—swing glasses, cheval glasses, looking glasses, servants' looking glasses. Decanters not exceeding £2 a pair. All the windows in the house except skylights, whether of plate or other glass.

Now be it known that from the date of these presents, and so long afterwards as the said insured shall duly pay or cause to be paid the same premium to the said Co., or to one of its known Agents, at the time and place aforesaid, and the acting Directors of the said Co. for the time being shall agree to accept the same, the capital, stock, and funds of the said Asso. shall be subject and liable to pay and make good to the said insured, his or her or their executors and administrators, all such damage and loss which the said insured shall suffer on, or in respect of, or which shall happen to the said property hereinbefore mentioned and described, by or from any cause whatsoever, saving the exceptions specified, and subject always to the conditions and stipulations of the said Co. endorsed hereon, and which constitute the basis of this insurance.

Provided always that the funds and property of the Co. shall alone be liable to answer and make good all claims and demands upon the said Co. under or by virtue or in respect of this policy, and all other policies effected with or granted by the said Co.; and that no Director, Proprietor, or member of the said Co., his or her heirs, executors, or administrators, shall, by reason of any pol. of ins., or of the whole of the policies of ins. together, which any Director has signed, or may sign, be in anywise individually or personally liable to any demand against the said Co., on any pretence whatsoever, beyond the amount of the unpaid part of his or her particular share or shares in the said Capital Stock of One Hundred Thousand Pounds, or such part thereof as for the time being shall have been subscribed.

In witness whereof, we, three of the Directors of the said Co., have hereunto set our hands, this *4th day of February, 1856.*

The conditions on the back were shortly as follows :

1. Mode of payment of premiums. 2. The assured might himself at once repair or replace broken glass, or he may apply to Agent to do same. 3. Assured not wilfully to break the glass insured, and assured to assist Co. in recovering for wilful damage. 4. Co. might replace glass or compensate in money. 5. Frames not insured. 6. Disputes referred to arbitration.

Note.—Armorial or other devices on glass, glass in conservatories, or horizontally placed, or in out-houses, are not ins. by this policy unless specially provided.

We never made any claim under this pol.; and the Co. itself passed out of existence in a few years. (See 1856.)

1854.—This year there were founded (1) the *London and Provincial Plate Glass Ins. Co.*; (2) *National Provincial Plate Glass*; and (3) *State Fire*, which had a Glass Ins. branch. We believe that no new features were introduced. The *British Nation*, founded this year, at a later period undertook the bus. of Glass Ins. Its bus. of this class became ultimately trans. to the *Plate Glass Ins. Co.*

1855.—The *General Accident and Compensation Co.* undertook "to insure Plate Glass, wheresoever and howsoever used; either in window or private dwelling-houses, enclosures, shop fronts, glass cases, panels, doors, looking glasses, mirrors, pilasters, etc. and in cases of breakage to replace the same with a similar description and quality of glass."

The *National Alliance* was founded this year, and carried on as one of its branches the Ins. of Plate Glass. In 1858 its bus. of this class was trans. to the *Plate Glass Ins. Co.*

1856.—The *Norwich and London Accident Ins. Co.*, founded this year, has a branch for Glass Ins.

The first contribution towards the Statistics of Glass Ins. was made this year by the *Times Co.* From 1st Oct. 1855 to 1st Oct. 1856 the experience of the Co. extended to 470 windows broken; and the following is a summary of the causes or supposed causes:

Malice aforethought, 11 cases; imprisonment was awarded to perpetrators in 3 instances; 68 were laid to the charge of that mischievous individual, 'nobody'; 67 were caused by stones, bricks, and other missiles, thrown by mischievous boys; wind 27; gas 14; 38 were caused by 'shutters'; 16 by drunkenness and brawling; 9 by horses taking fright, and careless driving; settlement of houses, 6; thieves, 3; 14 occurred while 'cleaning' was going on; and one breakage is attributed to frost; another to a stone kicked up by a bullock; ditto by an omnibus-horse; a dog; a boy with hoop; boy playing marbles; cart shaking window; a sheep jumping; a crowd; Hyde Park rioters; an air-gun; a blind beggar; a soda-water bottle bursting. The remainder were the result of accident or carelessness, and are variously explained. Among the reasons are: 'slamming of doors'; elbows; dressing window; 'something' outside; unloading carts; fan-lights breaking; 'porter'; ruler thrown; 'one of our young men'; 'a gentleman in our employ'; and various articles that appear to be continually falling through, such as bottles, packages, cheese, beef, etc.

1857.—In the *Mechanics Mag.* 24 Jan. this year, there appeared from the pen of the late Mr. Charles Babbage: *Table of the Relative Frequency of Occurrence of the Causes of Breaking Plate Glass Windows.* The introductory remarks were as follows:

The following T. has been prepared by an eminent statistician, from a detailed list of breakages extending over 10 months, recently published in the *Times*. It will be of value in many respects, and will, we hope, induce others to furnish more extensive collections of similar and related facts.

1. Air gun	1	23. Cord or hook of fanlight giving way ...	6
2. Window sash warping	1	24. Settlement of building	7
3. Frost	1	25. Horses, sheep, or cattle running against	7
4. Crowd	1	26. Blind falling	9
5. Frame badly made	1	27. Opening door too wide or violently ...	9
6. Dog	1	28. Cart, carriage, or truck run against ...	10
7. Slate from roof	1	29. Wilfully (3 imprisoned)	12
8. Bottle of soda water burst	1	30. Slamming door or window	12
9. Cart shaking window	1	31. Drunken men, women, or boys	14
10. Door opening causing package to fall ...	1	32. Gas	15
11. Iron bar falling	1	33. Cleaning windows	16
12. Board falling	2	34. Boys throwing stones at each other ...	16
13. Shutting window	2	35. Men fell through	18
14. Rioters	2	36. Pushing against	19
15. Dressing shop window	2	37. Violence of wind	32
16. Men repairing the road	■	38. Shutter falling	43
17. Thieves entering premises	3	39. Pair of steps or other things falling against	50
18. Stones kicked up by horses or cattle ...	3	40. Persons throwing stones	55
19. Persons throwing various things	3	41. Unknown	68
20. Sash rope of window breaking	5		
21. Opening shop	5		
22. Package in window falling	6		
		Total	464

1858.—There was founded the *Scottish Mut. Plate Glass Ins. Asso.* This we believe was the first Glass Ins. Co. founded north of the border; but it did not long remain alone. The *Northern Plate Glass Ins. Co.* was founded at Newcastle-upon-Tyne.

1859.—The *Greenock Plate Glass Mut. Asso.* was founded.

1861.—There was founded the *London and General Plate Glass*. This has been a most successful Co. At the end of ten years the Co. announced that it had paid for 22,344 breakages, involving compensation to the amount of £46,099.

1862.—Two Plate Glass Ins. Offices were projected, viz. (1) *Lancashire and General*; (2) *North of England*; but we believe neither of them matured. (See 1863.)

1863.—The *Guardian Plate Glass Ins. Co.* was founded in Manchester this year, and very speedily took a leading position in the bus. An early prosp. said:

This Co. insures all kinds of plate, sheet, ornamental, and other glass, against malicious or accidental breakages.

The pol. of the Co. cover losses arising from every cause, *except fire*, and are free from vexatious conditions.

Every Agent is empowered to replace losses at once, without corresponding with Head Office, consequently assureds experience no delay.

The above advantages render the pol. of the *Guardian* more valuable to the assured than the pol. of those who are more restrictive in their conditions, as some Companies exclude eight different causes of accidents.

The statistics of the Co.'s experience in causes of breakage are given later. See 1871 and 1877. The Co. up to Dec. 1st, 1878, had paid 24,705 claims, making compensation to the amount of £48,160.

The *British Mercantile Plate Glass Ins. Co.* was also founded this year.

1865.—There was founded this year the *Licensed Victuallers Plate Glass Ins. Co.* The experience of risks of this class had been found especially unfavourable by the previously existing Cos.; and hence the present Co. was founded in the interest of this class. Some three years' experience terminated its existence. A later Co. by the same name was estab. See 1875.

1867.—There were two Cos. of this class founded this year: 1. *London and Westminster*. 2. *National Standard*. The former had at one period a considerable bus. in France; but it retired in the face of the fierce competitions a few years since.

1868.—There were also 2 Plate Glass Ins. Cos. founded this year: 1. *The Imperial*. 2. *The National*. We do not trace either of them as being in existence now.

1869.—The *Metropolis and General Plate Glass Ins. Co.* was founded this year; also the *Royal Scottish*. The bus. of the latter was trans. to the *Brit. and Foreign* in 1870.

1870.—The *British and Foreign Plate Glass Ins. Co.* was founded this year; and the *Scottish Plate Glass*, in Edinburgh.

1871.—There were founded in Glasgow this year two Glass Ins. Cos. 1. *The Caledonian*. 2. *The Glasgow Plate Glass Co.* Each of these continues to flourish.

The *Guardian Co.* (1863) gave some account of its progress and experience to the close of the present year. It had issued 14,041 policies; its premium income was about £4500; it had made good 7766 breakages, at a cost of £13,647; and had 230 agencies in operation.

The experience of the Co. was that out of 1000 breakages the following would be the proportionate causes:

From shutters and their fastenings	120	From coaches, carts, and horses running into.....	40
„ Cleaning windows	52	„ Horses casting up stones in passing	8
„ Ladders and steps slipping	22	„ Vibration of passing vehicles	4
„ Shelves, signs, and fixtures falling	28	„ Sun blinds falling	16
„ Goods in windows falling	82	„ Swing fan-lights falling	8
„ Dressing windows	24	„ Workmen	12
„ Servants	28	„ Explosions	8
„ Violent shutting of doors.....	32	„ Burglaries	10
„ Getting in goods.....	20	„ Wilful	16
„ Wind, frost, and snow	82	„ Found broken on opening shop	12
„ Stone throwing	148	„ Floods.....	2
„ Children playing	24	„ Riots and Tumults	4
„ Passengers falling, slipping, or being pushed against windows	48	„ Gas heat	6
„ Settlement of buildings	20	„ Unknown or various.....	72
„ Drunken and disorderly people.....	40		
„ Passing cattle	12		
			1000

This T. certainly shows most varied causes of accidents, as also the necessity there exists on the part of the public to insure.

The average cost of each square of glass replaced seems to vary rather curiously in different localities, ranging from 21s. to £2 10s. 9d., as shown in the following table:—

Glasgow	£2 10s. 9d. each loss.	Leeds	£1 8s. 1d. each loss.
Liverpool	£2 6s. 10d. „	Dublin	£1 7s. 10d. „
Newcastle-on-Tyne	£1 18s. 2d. „	Sheffield	£1 6s. 5d. „
Manchester	£1 10s. 10d. „	Birmingham	£1 1s. 2d. „
London	£1 9s. 6d. „	Edinburgh.....	£1 0s. 11d. „

1872.—The *Spalding and Lincolnshire Plate Glass Ins. Co.* was founded during this year.

According to *White's Register*, the only Glass Ins. Cos. in existence at the close of this year were the following: *Plate Glass* (1852), *National Provincial* (1854), *Norwich and London* (1856), *Northern*, *Newcastle-upon-Tyne* (1858), *London and General* (1861), *Guardian*, *Manchester* (1863), *London and Westminster* (1867), *Scottish Plate Glass* (1870), and *Caledonian* (1871). We suspect some few of the smaller Cos. may have been overlooked.

1873.—During this year the following Glass Ins. Cos. were founded. 1. *Barrow-in-Furness*. 2. *Bath and West of England*. 3. *London and County*.

1874.—There were two Glass Ins. Asso. founded this year in Eng., viz. 1. *Bradford Plate Glass Mut.*; and 2. *Yorkshire and London Plate Glass*.

There were other events of importance connected with the bus. this year. The chief

of these was the Regent's Canal Explosion, which occurred on 2nd October.—See sub-heading *Explosions* in the next art. The other was the invention, or perhaps re-invention—for it is now claimed that it was known to the Greeks some 2000 years ago—of toughened glass, already referred to in our preliminary remarks.

1875.—Quite a number of Glass Insurance Cos. were set on foot this year, viz. 1. *Hibernian*. 2. *Licensed Victuallers* (No. 2 we may call this—there had been one with the same name in 1865). 3. *Mutual*, founded in Leeds. 4. *Standard*, founded in Bradford (Yorks). 5. *West Surrey*, founded at Guildford.

The *Licensed Victuallers* was reconstituted in the following year as a Fire and Glass Ins. Co.; but has since been literally “smashed” out.

1877.—There was founded the *United Counties Commercial Glass Ins. Co.*

The *Guardian* Co. announced that they had resolved to extend their liability under policies, by honouring losses arising from *any cause whatever*, except fire. It insures against damage through *malice* as well as accident, which latter all the Cos. now do.—See GLASS INS., PRACTICE OF.

1878.—There was founded the *Edinburgh and Provincial Plate Glass Ins. Co.*, which, in add. to the ordinary branches of the bus., announced the following special features: “The Directors, in anticipation of the large amount of bus. that will accrue to the Co., are having prepared a special tariff, which will comprise rates for business premises, and private dwellings, and special clauses will be adapted to cover Breakage by Removal.” (For details regarding this Co. see *Scottish Banking and Ins. Mag.* Nov. 1879, p. 281.)

1879.—There was founded—1. The *Manchester and County Ins. Co.* for Plate Glass, etc. 2. The *Town and County Plate Glass*, in Edinburgh. 3. The *Eagle Fire*, etc., had a Plate Glass Branch.

It will be observed that in recent years it has become very much the practice in Gt. Britain for provincial towns to estab. small local Glass Ins. Asso. The idea seems at first sight rational enough; but are there not two practical considerations arising? 1. Each of these Asso. has to bear some expenses of organization and management. 2. In the event of any general destruction of Glass from explosion or other cause, would not these people be practically uninsured? with the add. loss of the cap. they had subs. In fact the argument against Municipal Fire Ins. applies to these local Glass Ins. Asso.!

[MUNICIPAL FIRE INS.]

We now propose briefly to review the hist. and progress of Glass Ins. in other countries.

Australia—In Melbourne there is a Co.—the *Australasian Plate Glass Ins. Co.*—founded 1869, which for the half year ending June, 1874, paid a div. at the rate of 8 p.c. on the paid-up cap.

Austria.—There has been estab. the *First Vienna Plate Glass Ins. Co.*

Belgium.—There is founded *La Garantie Belge*, for Plate Glass Ins., in Brussels.

Canada.—Some of the U. S. Glass Ins. Cos. have agencies here. There is no Co. of this class belonging to the Province. Alternation of climate is the main risk.

France.—There was estab. as early as 1828, the *Compagnie Parisienne*, for Plate Glass Ins.; while in 1841, a second Co., *La Prudentia*, was founded, also in Paris. See art. FRANCE, sub-heading *Glass Ins.*

Germany.—There are several such Cos. in this Empire; where is also a Co. for insuring Glass against breakage during transport. See art. GERMANY, sub-heading *Glass Ins.*

Holland.—Glass Ins. prevails here; but the bus. presents peculiar risks, arising from the continued “settlement” of the buildings.

Italy.—The practice of Glass Ins. prevails here. The prevailing risks arise from storms and earthquakes.

Russia.—Glass Ins. is practised here, mainly, we believe, through agencies from the German Cos. The peculiar risks are associated with the alternations of heat and cold.

United States.—The bus. of Glass Ins. here has prevailed for some years, and has been made the subject of several speculative Cos. The *Knickerbocker Casualty Co.* placed the bus. on a more solid foundation in 1866. In the Western States, storms constitute the main risk. The *Boston Advertiser* in July, 1879, had the following, after the storm of that month in the Eastern States: “It is stated that one firm in this city has sold 300,000 panes of window glass since the storm of last week, or a total of 250,000 square feet. Another firm has sold 100,000 square feet, one party ordering 5000 “lights.” Still another firm has contracts for the repair of fourteen churches and 300 front doors. The total sales during the past week are estimated at half a million square feet.”

GLASS INS., PRACTICE OF.—The practical working of Glass Ins. has been developed with the growth of the bus. In the preceding historical outline some changes have been incidentally noticed. The principal points involved will now be reviewed in their alphabetical order.

Agency Commission.—The ordinary rate of commission is 15 p.c. on new premis. and 12½ on renewals—which is quite sufficient for the trouble involved in doing

the work well, and too much where it is done negligently, as it very frequently is. Some offices are giving 15 p.c. all round.

Agent's Report on Breakage.—See *Claims*.

Claims.—On any claim being made within the time specified in the pol. (see *Notice of Claim*), a form will be sent from the office requiring such details as the following :

Claim.—To the Secretary—Date 188 .
 Sir,—I of Claim under Policy [Without the number of the pol. is given, the Claim is liable to be considerably delayed.] for a square of glass feet inches X feet inches. Broken on the day of 188 [Here describe the glass broken, whether it is patent plate—embossed—silvered—or ordinary sheet glass.] Where is the square situated? whether in the front—door—fanlight, etc. The size of the salvage is feet inches X feet inches. The breakage was caused by If broken wilfully or by street accident, give the name and address of person who broke the glass. I hereby authorize you to take such process in my name as you may deem advisable, and agree to assist you in every way to recover the amount of the loss sustained by reason of the default, wilful or otherwise, of the person by or through whom the glass was broken. Signature of Claimant.

Estimate for Replacement.—To the Secretary—Date 188 .
 Sir,—I of agree to reinstate square of glass, size feet inches X feet inches, for the sum of £ : : (If more than one square give size of each.) Less allowance for salvage (no estimate can be entertained unless the size of salvage is set forth). Size feet inches X feet inches £ : : and contract to replace the said glass at a nett cost of £ : : and to be responsible to the Co. for any damage that I, or those in my employ, may do either accidentally or otherwise, in carrying out this contract. 188 Note.—No glazier is authorized to reinstate any glass without proper printed order authorizing the same to be done.

Agent's Report.—Date 188 .
 Name of assured No. of Pol. Note.—The number of Pol. must always be inserted in the claim, or the Office will not be responsible for delay in reinstatement. I certify that the above was signed by the claimant and the glazier whose names are affixed hereto, and that the same is correct. Agent.

Conditions of Ins.—The conditions vary in form rather than in substance considerably in the different Cos. The following condensation of these into the body of the pol. may be regarded as a great improvement in practice :

Now know ye, that from the date of these presents, and so long as the said assured shall pay or cause to be paid the said sum at the time and place aforesaid, and the Directors of the said Co. for the time being shall agree to accept the same, the funds and property of the said Co. shall be subject and liable to pay for or make good to the said assured, his, her, or their heirs, executors, administrators, and assigns (the cost of any carpentry or other work necessary in reinstating the glass being borne by the assured), any of the said glass hereinbefore mentioned and described that may be broken by or from any cause whatever, with the exceptions aforesaid; claim in respect of any such breakage to be made within 14 days from the date thereof, or the benefit of the Ins. will be lost to the assured. And the said assured shall and does hereby undertake on his part to render any assistance towards the recovery of the cost of reinstatement, in the event of any breakage or loss arising through any person or persons other than those in the assured's own employ. In the event of loss arising by breakage of any of the glass hereby insured, all salvage is the absolute property of the Co.

Provided always, and it is hereby expressly declared, that the said Co. shall in no case be liable to replace the same square more than once in any one year, and that the proposal in all its detail shall form the basis of the contract between the assured and the Co., and that no liability shall be incurred by the Co. of or in respect of any glass that shall or may be fractured at the time of the granting of this pol., and further that the funds and property of the Co. shall alone be answerable for the payment of the moneys assured by this pol.

See *Policy ; Proposal*.

Consequential Damages.—In connexion with this branch of Ins., questions of this character frequently arise. We have considered the question under title CONSEQUENTIAL DAMAGES. See also *Negligent and Mischievous Breaking* in the present art.

Days of Grace.—The number of days within which pol. may be renewed varies from 10 to 15. Breakages occurring within this period are not as a matter of law recoverable; but on proof that there was an intention to renew the Co. usually admits such claims.

Estimate of Cost of Replacement.—See *Claims*.

Explosions.—In the early pol. of the Glass Ins. Cos. the consequences of explosions were not excluded; but later experience made this necessary, except in the case of gas explosions arising on the premises of the insured—see *Policy*. Some of the Cos. exclude breakage by fire, intending to embrace explosions therein.

The great explosion of gunpowder and chemicals on the Regent's Canal, on the 2nd Oct. 1874, by which large numbers of windows were destroyed all through the N.W. portions of the metropolis, brought this question into prominence. Several of the Glass Cos. were under the necessity of paying under their early pol., and not under their later ones—which led to much dissatisfaction; but the Cos. replied that they did not now subject themselves to risks which extended simultaneously over whole neighbourhoods.

Some of the *Fire* offices found themselves liable under early pol. See *Fire Ins. ; Gas Explosions*.

Fire Ins.—Glass is held not to be covered in an ordinary fire ins. pol. on household goods, unless specifically named. The usual condition runs in this form :

This pol. does not cover property held in trust, etc.; nor china, glass, looking-glasses, jewels, clocks, watches, etc., . . . unless specially mentioned in the pol.

It is usual, therefore, to specify the maximum to be allowed on any articles of this class, and a corresponding prem. is charged. Plate glass in shop fronts, and in cases, etc., in stores and warehouses, are not covered unless specified. See *Gas Heat*. Fire pol. also exclude damage arising from explosions. See title EXPLOSIONS; see also sub-heading *Explosions* in this art.

Frauds.—This useful branch of Ins. has been made the subject of many frauds, in several ways: 1. By agents taking proposals, and receiving premis. for ins. in offices which had no actual existence. 2. Pretending to represent *bonâ fide* Cos. for which they were not authorized agents, and therefore could not deliver pol. 3. By agents colluding with proposers, and obtaining ins. after damage had been sustained; and so concocting fictitious claims.

Gas Explosions.—Most Fire Offices pay for damage occasioned by explosions of this character; but only for such articles as they cover under their pol.; and plate glass and mirrors not being ordinarily included in fire pol., will not thus be covered against gas explosions. See *Fire Ins.* [GAS.]

Gas Heat.—Most of the Glass Ins. Cos. pay for insured glass broken by gas heat—a very frequent occurrence in windows and shops having movable gas burners.

Negligent or Malicious Breaking.—In the cases of negligent or wilful breaking by third parties, the pol. usually requires the insured to proceed for recovery of the cost against the person committing the same, when called upon by the Co. to do so. See *Conditions of Ins.*

In Jan. 1878, two cases were decided in the City of London Court (before Mr. Commissioner Kerr), wherein damages were awarded against cabmen for breaking plate glass windows in the City. In each case the windows were insured. The actions were brought in the name of the owners of the property, for and on behalf of the Ins. Co.—*Vide Review*, 1878, p. 22.

In the case of *Evans v. Martin*, before the Recorder's Court at Cork, in 1879, the facts were these. The deft.'s car had backed into the plt.'s shop-window and broken it. The deft. had agreed to replace the glass, but when he was informed the cost neglected to do so. He was now sued for the cost of the glass, £10 14s., and £5 beyond, for damage done to the goods in the window by reason of his neglect. It was admitted by the plaintiff that the glass was insured, and that the Ins. Co. ultimately replaced the glass,—*Held*: that as the plt. could be called upon by the Co. to proceed against the person causing the damage, the cost of the glass could be recovered, but not the £5 for consequential damages. Verdict accordingly.

Notice of Claim.—All polys. require notice of damage upon which a claim is to be founded to be given within a specified number of days (varying from 10 to 14) after the event; but in practice the notice should be sent in immediately. See *Claims; Conditions; Removal*. In the case of *Marsden v. City and County Assu. Co.*, before the English Courts in 1865, the facts were these: By one of the conditions, notice of any loss or damage was to be given within ten days "to the manager, or to some known agent of the Co." L. was their agent, who negotiated the pol. and received the prem.; but on defts. subsequently transferring their bus. to another Co., he ceased to be their agent; but plt., who had no notice that L. had ceased to be defts. agent, gave notice of the loss, and sent in his claim for compensation to L. the day after the damage was done, and L. transmitted it to the Sec. of the new Co.,—*Held*: that in the absence of notice to plt. of the change of agency, his notice and claim so given and sent to L. were good, and sufficiently complied with the condition in the pol.—13 *Law Times N.S.* p. 465.

Policy.—The pol. contract varies with different Cos., but the following is that very generally in use with the Glass Ins. Cos.:

Whereas having paid the sum stated in this pol. to the Glass Ins. Co., and agreed to pay or cause to be paid to them at their Office the sum stated as above, as the ann. payment, and which said ann. payment is to be paid on the quarter day, or within 15 days of that date above specified, during the continuance of this pol., for ins. from breakage, or destruction, by or from any cause whatever (except the same shall arise from explosion, fire, gaslight, or by reason of civil commotion or tumults, settlement of premises, or by workmen other than those in the assurer's own constant employ), the glass as per following specification, viz. As described in the proposal lodged in this Office. None of the aforesaid glass being horizontally placed or movable. *Note*.—This Ins. will be vitiated if any alteration is made in the foregoing specified risk, unless notice is given to the Co. of the intended alteration, and the glass is only insured as plain glass of the ordinary thickness, unless otherwise described, and the Co. take no risk as to bending, silvering, embossing, or enrichments of any kind, unless the glass is so described in the foregoing specification.

The conditions in the form we have already given them may conveniently follow here, so as to form part of the face of the pol.—See *Conditions*.

Premiums.—The prem. for Glass Ins. varies with the nature of the glass insured, as also, and more especially, with the size of the squares. Embossed glass pays a higher rate. Some of the Cos. also assume to vary the prem. with the variations in the price of glass. In 1874 the price was unusually high; but several of the Cos. even then made no change in their rates. See *Proposal Form; Prospectus*.

Proposal Form.—The following is the form of proposal mostly in use now :

Term—From . . . to . . . Name in full . . . Address and Number of the House . . . Trade to be carried on in the premises . . .

Particulars.—1. State the description and thickness of the glass, also whether it is plate, patent plate, sheet or crown, the position of the same, whether in shop front, door, etc.; if a corner shop, (any horizontally placed, movable, or bent, must be specially stated.) If the glass is more than $\frac{1}{4}$ -inch thick, this must be clearly stated, or it will only be held to be insured as of that substance. . . . 2. Width of the pavement. . . . 3. Height from the pavement. . . . 4. Are the shutters lifting, hanging, or revolving? . . . 5. Is any of the glass in front broken? If so, its position must be clearly defined by a rough sketch on back hereof. . . . *Note.*—In the event of there being a broken square, a sketch of its position in the front is essential.] 6. Total number of squares plain plate glass . . . 7. Total number of embossed squares . . . 8. Total number of squares of patent plate, sheet, or crown glass, stating which description. . . . [*Note* to 6, 7, 8.—If any of the glass is embossed and gilded or coloured, it must be so described, and the value of each such plate must be given.] 9. Number of looking glasses (if any) and the height from the floor; how and whether securely and properly fixed, or are movable . . . [*Note* for 6, 7, 8, 9.—If any of the glass is bent, it must be specified.] 10. As no ins. is effected till a deposit of 2s. 6d. or more is paid on account of prem., the agent must here enter the amount and the date on which he received the same, and sign it. Received the . . . day of . . . 188 . . . deposit on account of prem. £ s. d. . . . Agent.

Statement of dimensions follows.

Prospectus.—The prosp. of the Glass Ins. Cos. usually contain some such brief details as the following :

This Co. covers the risk of all descriptions of glass, whether plate, patent plate, sheet, or crown; also all embossed, lettered, figured and silvered glass, shop and other glass facias, ornamental street lamps, and glass in internal shop fittings, publicans' bar fittings, etc.

Rates.—The rate of prem. varies according to the size of the several squares, and the position and description of the glass to be insured; but upon receiving the name and address of any person desirous of insuring, the Co. will immediately send and survey the risk, and give the proposer the terms of insurance.

Pending inquiry as to rate of prem., the proposer can pay a deposit at the office or to the agent, and so secure himself against risk, which deposit will be returned in the event of the rate not being approved.

Private dwelling house windows, if of plate or patent plate glass, ins. at very reasonable rates.

In the event of *breakage*, the insurer can have the glass supplied from either of the Plate Glass Cos. in London.

On giving up any business, the glass in which is insured by this Co., the pol. can be *transferred* to the outgoing to the incoming tenant, free of charge to either.

Notice of claims, when the ins. is in London, should be immediately given direct to the Head Office; when in the country, to the agent through whom the ins. was effected, so as to avoid delay.

Removal, Breakage during.—The Cos. have usually exempted themselves from loss arising from this cause, by a condition in their pol. In the case of *Marsden v. City and County Assu. Co.*, before the English Courts in 1865, the facts were as follow : The plt.'s plate glass shop front was insured "from loss or damage *originating* from any cause whatever except fire, breakage during removal, alteration, or repair of premises." On a fire breaking out in a neighbouring house, about 25 yards distant from the insured shop-front, plt. fearing it might extend to his shop (it had caught a portion of the back part of his premises), opened his shop-door, and with the assistance of his neighbours began to remove his goods from the shop; and whilst so engaged the crowd in the street tore down his shop shutters, broke the plate-glass front and stole some of his goods. It was *held*, that this was not a "loss or damage originating from fire or breakage during removal" within the meaning of the exception in the pol.; and that plt. was, therefore, entitled in an action on the pol. to recover from defts. the amount of damage done by the crowd to his plate-glass front on the occasion in question.—13 *Law Times*, N.S. p. 465. See also *Notice*.

Replacement of Broken Glass.—See *Claims*.

Renewals.—The number of days within which pol. may be renewed varies from 10 to 15. See *Days of Grace*.

None but the Co.'s printed renewal receipt constitutes a binding contract. Many frauds have been committed by agents, or sham agents, giving improper receipts.

Riots, Civil Commotion, Foreign Enemies, Usurped Power, etc.—

Breakages arising from these causes are usually excluded from Glass pol., as they are from Fire pol. See *Policy*.

Salvage.—The salvage of all glass replaced or paid for by the Co. reverts to it by usage and under the conditions of the pol.

Stamps on Pol.—By 24 & 25 Vict. c. 21 (1860), the stamps upon pol. of this class were to be, where the prem. did not exceed 2s. 6d., 1d.; did not exceed 5s., 3d.; and for each 5s. or fractional part above, 3d. The stamp on *renewal* was the same. Either adhesive or impressed stamps might be used.

By 33 & 34 Vict. c. 97 (1870), the stamp upon pol. of this class was reduced to 1d.

[CIVIL COMMOTION.] [EXPLOSIONS.] [FROST.] [GAS.] [HAIL INS.] [INS. FRAUDS.] [LIGHTING.] [MALICE.] [PRIVATE DWELLINGS.] [REMOVAL OF FURNITURE.] [RIOTS.] [SETTLEMENT OF BUILDINGS.] [TEMPERATURE.]

GLASS MANUFACTURERS, MORT. OF.—See OCCUPATIONS.

GLAUCINA (from the Greek, *azure*).—A term proposed by Hebenstreit for the natural form of cow-pox, from the bluish or azure tint of the vesicles.

GLEBE (from the Latin, *arable soil*).—In Law, Church Land ; usually taken for that which is annexed to a parish church of common right, and belongs to the parson or vicar. [LEASES FOR LIVES.]

GLEET.—A transparent mucus discharge, sometimes the sequela of gonorrhœa. [SYPHILIS.]

GLEITSMANN, WILLIAM, M.D., Baltimore, U.S.—Pub. 1875 : *Statistics of Mort. from Pulmonary Phthisis in the U.S., and in Europe ; compiled from Official Rep., and from Data obtained from Life Ins. Cos.* [UNITED STATES ; V. Statistics.]

GLENNIE, WM. GORDON.—Assist. Sec. at London Office of *Scottish Imperial* since 1877. He was trained to the bus. in the same office, which he entered in 1868 as cashier. In 1872 he went into the London Office of *S. National*, and remained there until 1875, when he returned to the *S. Imperial*.

GLENNY, GEORGE.—Was Actuary of several Friendly Sos. in the early part of the present century, and was regarded as an authority upon the law of Sickness and Mort. at that period. He was more immediately connected with the *Royal Union Asso.* in Lancaster Place, Strand. [See FRIENDLY SOS. 1825.] He described himself as "Author of the improved system of Mut. Assu. for F. Institutions ; and founder of the City of London Gen. Pension So."

In 1825 he gave evidence before the Select Parl. Committee on F. Sos., and showed considerable knowledge of the subject, and a very just appreciation of the necessity of distinct payments for separate benefits.

In 1826 he pub. a pamph. : *A Defence of the T. and Evidence of the Author and other Witnesses examined by the Select Committee on the Laws relating to F. Sos., against an Attack contained in a Pamph. recently pub., entitled : "Obs. on the Rep.," etc. ; together with Obs. on the erroneous Method adopted by Messrs. Morgan, Frensd, and Becher, in computing the T. of Prens. for the Benefit Club at Southwell.* This passed into a second ed.

He is supposed to have been the author of several pamph. relating to F. Sos. pub. anonymously in 1825, and referred to in our art. F. Sos.

GLIDDON, JOHN.—Was the first Sec. of *West of England*, and remained in that position about one year : being succeeded by Mr. Lewis.

GLOAG, WILLIAM.—Was for some years Man. of *City and County of Perth Fire*.

GLOBE ACCIDENT ASSU. CO. LIMITED.—Founded in 1879, with an authorized cap. of £10,000, in shares of £1, for the purpose of carrying on all branches of the bus. of an Accident Assu. and a [Fidelity] Guarantee Co. It only proposed to insure personal baggage, goods, and effects against loss or injury in their transit by land or water.

The prosp. spoke of a guarantee fund of £260,000, which we have not seen further announced ; also that the working classes were to receive "special attention" ; and that an industrial department "similar to the Prudential" was to be formed.

Mr. Simpson was the founder.

GLOBE ANNUITIES.—These were created on the occasion of the amalg. between the *Globe* Ins. Co. and the *Liverpool and London* in 1864 ; and full details will be given under **GLOBE INS. CO.**

GLOBE FIRE OFFICE.—Founded in Lond. in 1720, with a proposed cap. of £2,000,000, for insuring houses, household goods, wares, and merchandize from loss by fire all over England. It was one of the creations of the South Sea period ; and was carried away in the wreckage which followed.

GLOBE FREIGHT AND MARINE INS. CO.—A project under this title was put forth in 1845, but we believe it never took practical shape.

GLOBE INS. CO.—Founded in 1803, with an authorized cap. of £1,000,000, in fully paid-up shares of £100, treated as stock. It was founded on a strictly proprietary basis.

This undertaking has indeed a yet earlier hist., which has never been entirely written, but which it is desirable here to put on record—first, as showing the importance which was attached to the founding of an Ins. Inst. at the close of the 18th century ; next, as showing something of the large views and undaunted energy of its projector and founder, Sir Frederic Morton Eden, Bart. ; and lastly, as showing not only the mode of legislating for joint-stock enterprises at that period, but also the hostility which was manifested towards the granting of Royal Charters of Incorporation ! All this indeed forms part of the great history of Ins.

1799.—Early this year "proposals" were circulated for the founding this Co. They embodied the following features :

1. Ins. against fire, life assu., provision and endowment for children, provision for widows, granting annu., and granting sums payable at future periods.

2. Ins. from the members of the Church of Eng. and others, for providing for the widows and children of the clergy, and for poor and superannuated clergymen. [WIDOWS FUNDS.]

3. To act as treasurers for the receipt and administration of funds and donations, paid into the office, for the relief of widows and children of the clergy, etc.

4. To form a department for assisting and improving F. Sos.

5. To receive deposits from the industrious classes, for which interest will be allowed.

A Charter was to be applied for : and as a consideration therefor, it was proposed that a part of the cap. and a part of the profits should be invested in the purchase of Land Tax on Houses.

The cap. then proposed was £500,000, in 25,000 shares of £20. One p.c. to be paid on subs., "7 p.c. within one week after the Act received the Royal Assent"; and the remainder by instalments at 3 and 6 months. Subs. were to be received by Glynn, Mills, Hallifax and Co., Birchin Lane; and Devaynes, Dawes and Co., Pall Mall. In Nov. 1799, these prospective shares reached £3 10s. prem.

A Bill was accordingly introduced and passed through Parl. [Royal Assent 12 July, 1799], in the shape of 39 Geo. III. c. 83—*An Act for Enabling His Majesty to Incorporate by Charter a Co. to be called The Globe Ins. Co. for Ins. on Lives, and against Loss or Damage by Fire, and for other Purposes therein mentioned*. The preamble recites :

Whereas it hath been considered that it would in many respects be greatly advantageous to the publick if a Corp. were estab. for making or effecting ins. on lives, and ins. against loss or damage by fire, and for granting, purchasing, or selling annu. for lives, or on survivorship, and for granting sums of money payable at future periods within the kingdom of Gt. Britain or Ireland, and any other parts abroad; and for receiving deposits of the funds belonging to, and acting as treasurers thereof, for Benefit or Friendly Sos., and other Charitable and Benevolent Institutions; and also for making provisions for the widows and children of the clergy, and for clergymen; and for receiving deposits from or on account of the members of the industrious classes of society and others, upon such terms, and in such manner as should be agreed upon between the said Corp. and the persons or societies trading with the same Corp. for the purposes aforesaid. Be it therefore, etc.

And it was enacted, that His Majesty might grant a Charter for the purposes aforesaid, in Gt. Britain and Ireland, and any other parts abroad, "whether within H. M.'s dominions or not." It was ordered that provision be made in the Charter that the Corp. should be obliged to provide sufficient funds to answer all just demands on them by private persons or societies. Such fund was not to be less than £500,000, or more than £1,000,000, and the same was to be laid out in the purchase of "Land Tax on Houses" to the extent of £100,000 p.a. [a feature which had probably secured the promoters the good will of the Prime Minister]. The Directors were to lay an account before Parl. annually of the receipt and application of all moneys. There were many other provisions, some few of which it will be instructive to notice.

In add. to the purposes already recited in the "proposals," there was in this Act power to "receive deposits of funds of *Tontine* Sos.," and generally as to the deposit branch of its operations it was enacted :

III. Provided always . . . that all such deposits made by individuals shall not be payable by the said Corp. at a less period than 6 calendar months from the time such deposits shall have been made.

Something turned upon this clause later on. The subscribers to the cap. were to be liable only to the amount of their subs. (s. 14). The Corp. was not to borrow money by way of loan (15). Shares and securities might be trans. assigned, or devised (17)—a power which Parl. was very timid of conferring at this period. It was further provided that the cap. stock of the Corp. should be *exempted from all taxes and assessments*, except those passed by an Act of the present Session; and

. . . . That no person who shall be director or other officer of the said Corp. to be created as aforesaid shall for that cause only be disabled from being a Member of Parl.; nor shall in respect of such share or shares be, or be adjudged liable to be, a bankrupt, within the intent and meaning of all or any of the stat. made of or concerning bankrupts; and that no stock in the said Corp. shall be subject or liable to any foreign attachment, by the custom of London, or otherwise; any law or stat. to the contrary notwithstanding (18).

There was power to make bye-laws (19), and also for buying Land Tax, instead of "Land Tax on Houses," with the consent of the Lords of the Treasury, on the occurrence of certain contingencies (20), and there was power to punish persons committing forgery on the Corp. (22). This was to be deemed a Public Act (23).

The promoters at first sight appear to have gained in this measure all they had desired or could hope for; but this did not turn out to be the case. The really operative part of the enactment was as follows: viz.

"That it shall and may be lawful to and for H. M. by Charter or Indenture under the Great Seal of Gt. Brit. to declare and grant that such and so many persons as shall be named therein, and all and every such other persons and person, as shall from time to time be duly admitted members into their Corp., shall be one distinct and separate Body Politick and Corp., by the name of the *Globe Ins. Co.*" This was in fact simply the permission of Parl. to the King to grant a Charter if he should see fit to do so. It was also, in fact, following the precedent of 1719-20—in the case of the *Royal Exchange and London Assu. Corporations*—and prob. was designed to induce a following, in other respects, of the precedent then adopted, of which more will be said hereafter.

In the petition of the promoters presented with the draft-Bill, they admitted that they had been unable, "as well from the want of certain information with respect to the arrangements respecting the sale of the Land Tax, as from other unavoidable delays, to complete the formation of their plan, and the adjustment of such tables and calculations as were essential for the estab. of the intended Ins. Office, so as to render it of public utility, before the time limited by this Hon. House for receiving petitions for private Bills was expired." This petition was signed by nine gentlemen, most of whom were Members of the House.

The admission of incompleteness of the proposed scheme was in the following year made the most of by the opponents of the scheme. The only opposition encountered in the obtaining of the preceding Act was from the *Amicable* So., and that was of a very feeble character.

In pursuance of the recited Act, the draft of a Charter was prepared, *in strict conformity with the provisions of such Act*, and was submitted to the law officers of the Crown on the 13th Sept. On the 4th Dec. they made their report, which contained several objections to the Charter being granted, "unless such Parliamentary provisions should be obtained as would prevent the inconveniences which they suggested as likely to arise from the proposed Charter." In Dec. the promoters of the Co. replied that "They humbly conceived that forfeiture of the Charter, a penalty which His Majesty was competent to impose without the aid of Parl., would be sufficient to prevent the inconveniences which His Majesty's law officers had suggested." And they still prayed for the grant of a Charter, "*with such restrictions as H. M. should think proper.*"

1800.—During the progress of the preceding attempt to obtain a Charter there was pub. a quarto pamph.: *The Portentous Globe: an Enquiry into the Powers solicited from the Crown, under an Act of 39 Geo. III., intituled "An Act enabling His Majesty to grant a Charter of Incorporation to certain Persons under the Style of the GLOBE Ins. Co.," containing Obs. on the Tendencies of such Grant, and on the Effect of Charters on Commercial Undertakings; recommended to the Consideration of the Bankers of the Metropolis, and to the Country Bankers of Gt. Brit., etc., etc., by George Griffin Stonestreet, Esq. [of the Phoenix Fire Office].* The author says in his "preliminary remark": "The writer of these sheets avowing an interest in opposing the *Globe* Charter, and disdaining to assume a mask, has prefixed his name: he desires no shelter from responsibility of any kind for his arguments or his assertions." He says, under sec. 7 of his pamph.:

There may be, and at times has been, too many Banks and Bankers; *there may be, and there now is, too many* Ins. Cos. When the number of competitors exceeds the public want in either of these, and in many other walks, the public is not better, but worse supplied; *sometimes much worse.* Too many banks diminish the public security, impound cap. and check circulation; too many Ins. Cos. excite public danger in a tender point, which it is scarcely prudent to discuss. . .

The Cos. for Life and Fire Ins. have as much reason as the bankers to apprehend mischief to their Inst. from the gigantic powers of such a Corp. The influence of a body, which in its tender years, upon the force of its own showing, is to be expected to possess so vast a cap., must necessarily bear down all competition. When the extent of its connexion, its monied power, its parl. interest, its sway with the multitudes who must stand connected with it, not only as shareholders but through the means of its patronage, its vast expenditure, its train of dependents and expectants, its *Pantagruel* stomach, capable of digesting all that should come within its reach, are fairly considered, it will be obvious that such a Corp. the existing Ins. Cos. could not withstand; the lesser ones must be speedily crushed, the more extensive estab. would follow. Their customers would be seduced from them by artifice as well as power; their trade would be rendered unprofitable; their shares unmarketable, and thus the *Globe* would in a few years obtain possession of that *monopoly*, which, although they have not dared to solicit in terms, it cannot be doubted has been held in prospect. But why should the estab. insts., important as they are to the public convenience and security, be overthrown or put to hazard, to make room for those new-fangled competitors? . . .

It would not be difficult to quote twenty authorities to show that Charters can only be properly granted when they are found necessary to supply some great public want. It has been alleged that the Preamble to the Act of Parl. is an answer upon that point; but it cannot be improper to observe that no evidence was offered by the Petitioners to prove that the allegations set forth in that Preamble had any foundation whatever. *On the contrary, the truth is that the public in this kingdom are supplied with Ins. of all kinds at cheaper rates, and upon better security than the inhabitants of any other Nation.* Who has ever heard of any deficiency of supply in these branches? . . .

Although the Act of 17 Geo. III. is yet in force, is there any dearth of Annuity mongers? Where then was the public want which could justify this measure? When Aaron set up *his* calf in the wilderness (the materials for which were obtained by stripping the people) the justification for this idolatrous act was, that he had done it to satisfy the clamours of the multitude. Had anybody heard of an outcry for erecting such a Corp. as the *Globe*?

Turning from the merits of the project to those who might have been induced to lend it their personal support, he addresses these as follows:

Have you not been induced to lend your name on this occasion upon *suggestion* of wonderful advantages likely to be derived? Have you informed yourself whether the stories of extraordinary profits, made by some of the Cos. who carry on the kinds of traffic in which you were to embark, had any foundation in truth? Whether the pretended computation had been drawn from a proper average of a sufficient number of years; or, whether *false, lying, and exaggerated* tales had not been fabricated for the purpose of obtaining your countenance, and of bolstering up a ridiculous Project on the shoulders of your reputation?

Finally:

Should this pub. contribute to excite a proper spirit of inquiry into the nature and tendencies of the *Globe* Corp.; should the writer have pointed out its origin; should he be found to have demonstrated that the powers which the projectors have solicited are excessive, inordinate, unprecedented, and almost unlimited; should he have assisted the uninformed with the means of correcting their judgment on the probabilities of its success; should he have awakened some who slept, whilst dangers were at their door; then the motives which have impelled him to write will be of little moment to those who read. If his speculations on the vast and complicated powers of such a Corp. should be suitable and natural, his conclusion will not be denied. That such an estab., in the event of its success, would become a Monster of Tyranny and Oppression! And that if on the other hand its constitutional defects should bring on a rapid decay, a speedy dissolution; if instead of a solid *Globe* moving with order and regularity in the sphere of a determined orbit, it should turn out to be a meteor only, *a will o' the wisp*—holding out false lights, leading men astray, through fens and bogs, and miry places; and afterwards vanishing and leaving them in the dark to grope and extricate themselves as they can. Whether it succeeds or whether it fails, on either side of the alternative, the public must be injured; and it will be felt while it exists, and not less when it shall be dissolved, to be what this writer has ventured to call it—The Portentous *Globe*!

1802.—The next step was the referring of the whole question, with the petitions, memorials, etc., to a Committee of the House. The Committee first met on 11 May, 1801; when the matter was again referred to the Attorney and Sol. General, "to

consider the several alterations and amendments proposed by the Petitioners to be inserted in their Charter, and to report their opinion thereon to their Lordships with all convenient speed." Several hearings took place before the Law Officers in the ensuing winter; and on the 8 Feb. 1802, they made their report, the concluding paragraph of which was:

"Upon the whole we are of opinion that supposing the policy and expediency of granting any such Corp. to be admitted (which question we do not consider as being referred to us), *the terms on which the Petitioners are now content to take the Charter will remove all those objections mentioned in the Rep. of Sir John Mitford and Sir Wm. Grant (already quoted), upon which their opinion of the necessity of further application to Parl. seems to have been founded.*"

This Rep. was made to the Committee of the Privy Council, who (in March, 1803) reported that it was *not expedient* to grant the Charter! The orig. cap. was now returned.

1803.—The application for the Charter having failed, a gen. meeting of the subs. was convened by adv. dated 29 March, 1803, to be held 14 April following, "for the purpose of forming a proprietary Fire and Life Office." At this meeting it was resolved to constitute the Co. under a deed of partnership, and to commence bus. in the several branches of Ins. approved of under the Act of 1799, except so far as these had become modified by subsequent events. The deed of co-partnership was prepared accordingly, and executed by all the subscribers to the stock of the Co. This deed bore date 2nd June, 1803. It recites:

Whereas a subs. was opened at the Banking houses of Messrs. Glyn and Co., Birch Lane, and Messrs. Devaynes and Co., Pall Mall, by several of the parties to these presents, for the purpose of forming a Proprietary Fire and Life Ins. Office, *provided the same could be formed without subjecting the individual shareholders to personal responsibility beyond the stock and funds of the Co.*

It also recited the holding of the meeting on 14th April at the "Crown and Anchor" for the purpose of entering into the aforesaid subs., and the resolutions then passed. At the same meeting 25 directors were appointed, whose qualification was to be the holding of £2000 stock in the Co.

Notwithstanding this resolve to commence bus., it was determined still to proceed with the application for a Charter. But the delay which had resulted, aided perhaps by the circumstance that the promoters had now assumed the position of competitors, led to some direct opposition in a two-fold form—1. From the Gov. and Co. of the *Bank of England*, on the ground of the Deposit branch of the proposed Co. But the monopoly which the Bank Acts conferred upon that Corp. was the right of receiving deposits payable *on Demand*. 2. From the chief of the then existing Ins. institutions, including the two Chartered Corporations—whose Charters, however, only gave them a monopoly in the matter of *Marine* Ins., which it was not at this period proposed the new Corp. should undertake.

The Offices that petitioned against the incorp. of this Co. were:

1. The Corp. of the *Royal Exchange Assu.*
2. The Corp. of the *Royal Ex. Assu. of Houses and Goods from Fire.*
3. The Corp. of the *Lond. Assu.*
4. The Corp. of the *Lond. Assu. of Houses and Goods from Fire.*
5. The So. of Lond. Insurers, commonly called "the *Sun Fire Office Co.*"
6. The So. for Ins. on Lives and Survivorships and granting Annuities, commonly called the "*Westminster Life Ins. Office.*"
7. The *British Fire Ins. Office.*
8. The Directors and Proprietors of the *Phoenix Fire Office.*
9. The Directors, Proprietors and Copartners of the *Pelican Life Ins. Office.*
10. The Directors of the *Albion Fire and Life Ins. Co.*

We have quoted from these petitions in the histories of the several Cos. It is noticeable that the *Amicable* So., which had opposed the passing of the orig. measure, did not oppose now.

1804.—There was a supplementary D. of Sett. dated 11th Oct. This was rendered necessary only because all the members had not signed the orig. Deed.

1805.—The Co. determined to open a branch office in Chancery Lane, to facilitate transactions with the legal profession. Mr. Desborough (afterwards the well-known Sec. of the *Atlas Co.*) was appointed to take charge of the branch, and was authorized to accept lives up to £1000. The experiment after being tried for about one year was found not to succeed, and the branch was closed.

1806.—The promoters now resolved to endeavour to obtain powers to transact *Marine* Ins., and to this end the proposed cap. was to be increased. Accordingly, early in the present year, they presented a further memorial to the Lords Commissioners of H.M.'s Treasury, wherein occurred the following passages:

... That the bus. of Fire and Life Ins. are of such a nature as (in the opinion of the most esteemed writers on Political Economy) to render the estab. of a Joint-Stock Co., but without exclusive privileges for transacting them, perfectly reasonable: since these dealings are admitted to be of general utility, and to require a greater cap. than can easily be collected into a private copartnership: and that it hath been also deemed beneficial to the public, that the power of purchasing and granting Annuities should not be limited to Individuals, but should be allowed to a Joint-Stock Co. dealing in Life Insurance.

That the provisions of the Annuity Act [17 Geo. III. c. 14], passed in 1777, require a peculiar mode of registration of certain particulars, which, whilst it leaves individuals unrestricted in their dealings in Annuities, wholly excludes Ins. Offices, consisting of a numerous proprietary, from dealing with public bodies or individuals desirous of raising money by the grant of Annuities; as offices so circumstanced (with many hundred proprietors, some of whom are only trustees for other persons) find it impracticable to comply with the clause of the Annu. Act, which requires that the names of all parties beneficially interested shall be enrolled—a clause that creates no difficulty with respect to Cos. which may be described in their corporate capacities. . . .

Your Memorialists are desirous of forming a Co. to be incorp. by an Act of the Legislature for effecting *Marine, Fire, and Life Ins.*, and for granting and purchasing Annuities; and that in consideration of the advantages which may accrue to your Memorialists from the estab. of the proposed Co., they are willing to raise a cap. of not less than one million, and not exceeding two millions; such part thereof to be invested in the public funds as the Legislature may direct; and that one hundred thousand pounds, part of such capital, shall be paid into the receipt of His Majesty's Exchequer within three calendar months after the Act for incorp. the proposed Co. shall have received the Royal Assent.

This offer of £100,000 to the Government for a Charter was of course based upon the bad precedent of 1720, of which we shall speak fully in our hist. of MARINE INS. The Lords of the Treasury replied, under date 31 May, 1806, desiring the transmission of a draft-Bill with as little delay as possible. The Bill was transmitted; the Chancellor of the Exchequer spoke at considerable length in its favour on the second reading; and it was referred to a Committee. The Committee proceeded no further than to hear counsel and evidence on the part of the *Royal Exchange Assu. Corp.* against the measure. This was on the 7th July, 1806; and their proceedings were then discontinued!

Thus, after seven years' delay in endeavouring to obtain a Charter, the promoters had to be content with the organization they had set on foot in 1803 under the general law; and found themselves unable to transact the bus. of Marine Ins. by reason of the exclusive privileges enjoyed by the two Chartered Corporations! About the only good thing which resulted from the preceding attempt was the preparation by Mr. Eden of his privately printed tract: *On the Policy and Expediency of Granting Ins. Charters.*

That the Co. took a leading position from the time of commencing bus. is evidenced in the fact that at the close of its second year of operations, in 1805, it stood 6th in the list of Fire Ins. Duty paid—its amount being £17,284 10s. 2d.—being far in advance of some offices a century older.

1807.—There was enacted 47 Geo. III. (Sess. 1), c. 30—*An Act to Enable the Globe Ins. Co. to sue in the Name of their Treasurer; and to enrol Annuities.* This Act recites that "the public hath been greatly benefited by the formation of such So. or partnership, with a competent cap. to carry on the same, and a considerable revenue is derived to H. M. therefrom."

And in the same year (2nd Session) there was also enacted 47 Geo. III. (Sess. 2), c. 87—*An Act to Explain an Act of the 47th Year of H. present M., for enabling the Globe Ins. Co. to sue in the Name of their Treasurer; and to enrol Annuities.* The former Act was to extend to future proprietors.

1809.—There was this year enacted 49 Geo. III. c. 123—*An Act to Alter and Explain two Acts to Enable the Globe Ins. Co. to sue in the Name of their Treasurer; and to enrol Annuities.*

1810.—During this year the Co. defended a claim brought by one Leworthy at the Assizes at Taunton for £745, the alleged damage resulting from a fire loss. There was no doubt that this was a gross fraud, and the jury found for the Co. There was pub. the same year: *The Trial between Wm. Leworthy and the Globe Ins. Co., before Mr. Baron Graham and a Special Jury, at Taunton Assizes, 5th and 6th April, 1810; taken in Shorthand.* 8vo. pp. 180. In the preface to this vol. it is stated that the Co. had in 7 years paid upwards of £217,000 in losses.

A scheme of Ins. for the Endowment of Children was put forward by this Co. about this date; but it was a clumsy one, and its weakness was exposed by Mr. Francis Baily. [ENDOWMENT INS.]

1812.—It was understood that about this period (as in 1804), when Consols were at a very low price, the Directors of this Co. made very large investments therein.

1814.—A list of proprietors of stock in the Co. was this year printed and pub.

1844.—There was enacted the 7 Vict. c. xxxix—*An Act to Enable the Globe Ins. Co. to Alter and Amend some of the Provisions of their D. of Sett.*—the preamble of which recites as follows:

And whereas, since the date of the said Indenture or D. of Sett. [2nd June, 1803], the mode of conducting the bus. of Life Ins. has become subject to several alterations, and in particular it has become usual to allow to insurers some proportion of the profit of the said bus. . . . but it is doubted whether the *Globe Ins. Co.* have power under the provisions of the said Indenture to allow any portion of the profit of any part of their bus. to insurers.

It further recited that the Co. required power to transact re-insurance bus.; also to invest its funds in reversions, purchase of pol. of ins., etc.; also to reduce the paid-up cap. of one million "by returning part thereof to the proprietors." All these powers were conferred. The cap. might be reduced to £50 p. share, with the consent of proprietors holding half the shares, at a general or special general meeting, and with the assent of all pol.-holders to whom the orig. cap. of the Co. was pledged.

1850.—*The Walter Watts' Frauds.*—During this year there was brought to light one

of the most extraordinary cases of embezzlement which had ever been discovered in the conduct of the internal affairs of any Ins. inst. The delinquent was Walter Watts (son of the old and respected cashier to the Co.), who filled a subordinate position in the office. On suspicion being aroused, Mr. J. E. Coleman, then the chief public accountant in London, was called in, and we shall draw the following details from the two reports prepared by him for the Directors.

The first rep. was laid before the Board about the close of March, and was merely of a preliminary character; but it stated the important fact that during the year 1849 alone, amounts to the extent of upwards of £18,000 had been abstracted. It further said that in the receipt department there was no effective check against fraud, although owing to the integrity of the officials generally no fraud had taken place; but that in the accountant's office, in which Watts was employed, the extraordinary lax practice prevailed of making the bankers' pass-book the foundation of the entries in the books of the Co., instead of the documents relating to the payments ordered; so that if the person having the custody of the pass-book chose to falsify it, the false entries were trans. to the general books of the office, and thus made to cover abstractions effected through the bankers. Of this laxity Watts, who was the custodian of the pass-book, and part of whose duty it was to check it, took advantage, and by its means was enabled to carry on for years without detection a systematic scheme of robbery, which, for extent and daring, was, up to that date, unparalleled in the history of any public Co.

The second rep. of Mr. Coleman was presented to the Directors some two months later, and, as a matter of course, went narrowly and in detail into the *modus operandi* of the abstractions, the key to which had only been arrived at after the most patient and laborious investigation of all the pol., claims, counterfoils of checks, and vouchers of every accessible kind relating to the payments which had been made through the bankers during the period of Watts' connexion with the institution. The exceedingly ingenious manner in which Watts contrived to make the loose and unbusiness-like system of check subservient to his nefarious designs, may be best explained by quoting a single instance. A check, say for £554 10s., represented as for Annuity No. 6, was drawn and paid by the bankers, and entered by them in the pass-book. When the book came into Watts' hands, he erased the 55, thus making the payment appear £4 10s.; and in order to mystify the matter further, he altered the number of the annuity to 64, by adding the figure 4. But, in point of fact, no such claim existed against the Co. at the time as Annu. No. 6, and the payments on Annu. 64 having been previously made, a fictitious claim of £4 10s. appeared in the pass-book as paid, in order to provide facilities for covering the abstraction. But the difference of £550 being still left between the payment, as it appeared in the falsified entry in the pass-book, and the actual amount paid, Watts had to find some means of covering the discrepancy, in order to avoid detection. For this purpose he selected a trifling fire loss, say of £7 10s., which had been paid some time before, but which had not yet been passed, and falsified that entry in the pass-book also, by adding to it the £550, making it appear that £557 10s. was the sum which had been paid; and thus, by making the total addition in the book correct, perfecting the cover for the fraud.

In the same way it was found he had tampered with the dividend account, falsifying the figures, as entered in the bankers' pass-book, to the extent of £1500 on one half-year's dividend, which sum he withdrew and trans. to his own pocket. Abstractions of this character, between Aug. 1844, and Feb. 1850, when the first discovery was made, to the extent of about £70,000, were made; and so thoroughly systematic were his arrangements that the bal. of cash at the bankers at the date showed a discrepancy of under £10,000, which for the most part was temporarily covered by false additions in the pass-book, waiting until an opportunity offered of altering individual entries that might suit his purpose, previously to their permanent transference to the general books of the Co., when detection need no longer be apprehended.

Discovery.—It is clear from this brief statement of the case that the auditors of the Co. ought to have discovered the frauds that were being perpetrated at a very early date; the more so that the pass-book was said to present a mass of erasures and alterations. The rumour concerning the actual mode of discovery was to the effect that one day a portly-looking country or clergyman, or squire, presented himself at the office of the Co. to pay the ann. prem. on his life pol., and that the clerk in charge of the department refused to accept it, on the ground that the life had been "made dead" in the books of the Co., and the claim of course paid! But this seems improbable.

The Trial and End of Watts.—The frauds being proved, there was yet some difficulty (under the old law) of bringing him to punishment—he was a stock-holder, and therefore a partner in the concern. And, in addition, it had been part of his plan to destroy documents and vouchers. He was ultimately found guilty of stealing a piece of paper (a check) belonging to the Treasurer of the Co. Upon this (but only after considerable delay) he was sentenced to 10 years' transportation; but this sentence he defeated by committing suicide the first night of his imprisonment. The money he wrongfully obtained was dissipated in theatrical adventures!

1852.—This Co. introduced an important change from the commencement of this

year, which was no other than to let the Life pol.-holders into parti. of the profits—to the extent of two-thirds; the division to take place every 7 years. The adv. announcing the change said :

The Directors of the *Globe*, guided by these considerations, with a watchful attention to the new plans adopted by most of the Life Ins. Cos., including those of long standing and high reputation; and availing themselves of the more accurate knowledge which is now possessed of Life Ins. as a science, have determined, on and after 1st Jan. 1852, to vary in principle and detail their present system of Ins. on lives.

The first division accordingly took place in 1859.

1854.—The Co. was at this date transacting Fire bus. in *Canada*. During the years 1852-4 the loss occasioned by this branch of operations was £54,214—seriously affecting the Fire Reserve Fund, or “rest.”

1857.—An internal storm, of a somewhat serious character, occurred this year. Two stock-holders, Mr. Colquhoun and Mr. Tomlin (the former holding £500, the latter £2000), issued a pamph. condemning the management. The four chief points raised were: 1. The Watts’ frauds. 2. The system of audit. 3. The stagnation of the Co.’s bus. 4. Alleged losses (depreciation) on two large loans granted respectively on the Harvieston (£97,000) and Cheltenham (£54,000) estates, and excessive fire losses. The first incident we have already reviewed in sufficient detail; and the system of audit after that event we may be quite sure was reasonably sufficient. On the other points we turn to the official reply prepared by Mr. Newmarch, the then Sec., on behalf of the Board.

Fire Branch.—The increase of this was illustrated by the amount of the duty collected (which, however, only applied to that of the U.K., as on foreign bus. there was no such impost); this, in 1851, had amounted to £35,751; in 1856 to £43,630—increase 22 p.c. The losses had indeed during this period been very heavy, but the excess was mostly from the *Canada* agency.

Life Branch.—The prem. received in 1852 were £45,962, and in 1856 they were but £34,032. Over the 5 years a total of £196,927 had been received in prem., yielding for “charges and profits” £59,615. This was shown on a special report by Mr. Robt. Tucker and Mr. Samuel Brown.

Profit and Loss.—The net results of the 5 years 1852-6, the Fire, Life, Annuity, and Reversionary bus., was a profit of £92,415, to which add income from investments of paid-up cap. during a like period, £202,303—total, £292,718. Against which there had been paid to the proprietors during the like period £285,000, or something over 5½ p.c. p.a. free of income tax—then recently imposed; the bal. of £7818 being carried to the “rest”; but the Canadian fire losses had not in the preceding figures been taken into account—being regarded as special, we suppose—and these had absorbed the bal. of £7818, and £46,396 in add., which accounted to that extent for the diminution of the “rest” since 1851. The mortgage on the Harvieston estate was said to produce 3 p.c. net, and that on the Cheltenham estate “a fair return.” Messrs. Colquhoun and Tomlin estimated the loss on these estates at from £30,000 to £40,000, which would about take away the “rest,” and leave the bare million of cap. intact.

1858.—Early in this year there was a rumour very current of an intention to amalg. this office. The negotiations fell through, however.

Same year the Co. obtained another special Act, viz. 21 & 22 Vict. c. 1x—*An Act to enable the Globe Ins. Co. to alter and amend some of the Provisions of their Deed of Sett.; and to confer further Powers on the Co.* By its provisions the number of directors after the ann. meeting in 1860 was to be 18; the mode of conducting the election of future directors was defined. There were regulations for the election of auditors, who were to be stock-holders; there were also regulations for voting at general meetings. There was also a clause, *Power of Amalgamating with other Cos.*, wherein very ample powers were given (sec. 24). There were powers for appointment of new trustees, etc., etc.

1862.—At length, towards the close of this year, a fact which had long been patent outside the board-room of this Co., viz. that the Co. was weighted down by the magnitude of its paid-up cap., became apparent to the management. If the Co. had fortunately had but 10 p.c. of its subscribed cap. paid-up (about the proportion in other contemporary Cos.), which would have been quite sufficient for its purposes as an ordinary Ins. Co., it would have been in the position that a reasonable amount of profits on its bus. every year, plus the earnings on the invested cap., would have been sufficient to pay handsome dividends—as, for instance, £15,000 p.a. realized profit would pay 15 p.c., making with the earnings of the cap. say 20 p.c. dividend; but with the paid-up cap. of £1,000,000 it would require £50,000 at least, beyond the income from the cap. invested, to pay 10 p.c. The Co. was, in consequence, handicapped in the race with competing offices. It could not afford to make a false step; it could hardly afford to exhibit enterprise in any form. The profits on its early investments in the national funds had been realized by the former proprietors; and the Co. was to a certain degree helpless for material progress. The power given under the Act of 1844 for the reduction of cap. had never been brought into operation.

This state of matters looked at fully in the face—and the events of the preceding few years had prepared the way for this—it was resolved to accept overtures for amalg. with

perhaps the only Co. which could prudently have entered upon such a negotiation. The *Liverpool and London Co.* had a rapidly growing bus. founded upon a very small paid-up cap. An agreement was entered into between the two Cos., of which it will be sufficient to give the main features.

Articles of agreement dated 31 Dec. 1862, recite that the cap. of the *Globe* was £1,000,000, in 10,000 shares of £100 each fully paid, and treated as stock, and the entire sum invested in securities. The cap. of the L. and L. was £2,000,000 nominal, in 100,000 shares of £20; the amount paid up being £189,202, treated as stock, with power to increase. The dividends for the last 4 years had been at the rate of 30 p.c. p.a. Preliminary resolutions had been passed at specially convened meetings of directors and proprietors. It was now agreed,—

1. The bus. of the *Globe* to be trans. to and united with the *Liverpool and London* as from 29 Sept. 1862. The *Globe* to pay its life and other losses up to that date; and the L. and L. should assume and discharge all engagements maturing after that date, including obligations stated in a first and second schedule.

2. All prems. due to the *Globe* before the said day for trans. to be included in that Co. as part of its assets; all due on and after that day to be received by the L. and L. Co.

3. The profits from the 31 Dec. 1858, in which the holders of pol. in the *Globe* were entitled to participate, were to be ascertained and calculated as had theretofore been the custom for the benefit of such pol., a due proportion only of the expenses of carrying on the bus. thereafter being charged against the same, not exceeding the proportion theretofore borne.

4. The valuation of the Life, Annuity and Endowment pol. of the *Globe* to be on same basis as theretofore in view of ascertaining the amount of the Life fund; but the Annuity and Endow. pol. of the *Globe* were to be valued at $3\frac{1}{2}$ p.c. on the T. adopted by the L. and L., and the Life pol. on the same principle as those of the L. and L., as on 29 Sept. 1862, for the purpose of being taken over by the latter Co. Investments representing the amount of the funds so ascertained to be trans. to the L. and L., to be held as a separate fund—"The Life Pol., Annu. and Endow. Liability Fund"—to meet liabilities thereunder. This fund to be valued once every 5 years, strictly on the basis of the *Globe* valuations. The securities of the special Liability fund to be valued at the same time, and the amount of surplus handed over to the L. and L.; but if any deficiency should be found, the L. and L. to make good the same.

5. The L. and L. to issue to each proprietor of cap. in the *Globe*, in lieu of each share of £100, held by him, £20 stock in the L. and L., no further call being payable thereon; and the holder to have equal rights with the L. and L. holders, as from 29 Sept. 1862.

6. Any holder of *Globe* stock might, in lieu of the last-named arrangement, exchange such stock for a perpetual annu. at the rate of £6 p.c. p.a. for each £100 of stock, to commence as from 29 Sept. 1862.

7. The provision for such annu. to be made by grant to trustees, with facilities for regis. the same; and the L. and L. "shall make and for ever keep a regis. of the said perpetual annu., in which shall be entered the names and descriptions of the persons for the time being entitled to the annu., and the amount of annu. held by them respectively."

8. Such further deeds of covenant as might be required to be executed by the L. and L. for the last-named purpose.

9. The stock to be issued for the purposes aforesaid to form part of the Consolidated Stock of the L. and L., and to be entitled to equal rights of trans. and regis. The annu. (in lieu of stock) to be paid at chief office of L. and L., with right of transfer for all sums not involving fractions of a £. "The title to annu. shall not confer any of the rights or any of the liabilities of a shareholder in the L. and L. Co."

10. Investments to the amount of £1,000,000 stg. to be trans. on or before 1st June, 1863, to 5 trustees, and to be designated "The *Globe* Six p.c. Perpetual Annu. Fund," to be held upon the trusts following, that is to say: 1. In default of payment of the said perpetual annu. or any of them, or if the trustees "shall have reason to believe that some next accruing payment thereof respectively may not be duly made," to enter into receipt of the said income, and therefrom to pay the annu. which shall have been taken in exchange for stock as aforesaid; and then to apply the surplus (if any) in replacement of any part of the fund intrenched upon. 2. And subject to such primary trust, in trust for the said L. and L. as part of its general assets and revenue: Provided that after all the pol., contracts, and engagements of the *Globe* constituting a lien on the said cap. shall have been satisfied, the investments and securities constituting the *Globe* 6 p.c. Perpetual Annu. Fund shall be valued, and after reserving "so much of such investments and securities as shall be equal in value to £100 for every £4 p.a. of such perpetual annu. charged thereon," the surplus to be trans. to the L. and L. as part of its general assets; but if the fund valued on such basis at any time falls short, the L. and L. to make up the same to the required amount. The trustees at all times to have access to the books in reference to the annu. charged on this fund.

11. For the purposes of this agreement all investments and securities to be trans. from

the *Globe* to the L. and L., and to the trustees of the *Globe* 6 p.c. Fund, to be taken at the valuation in the books of the *Globe*, except the Blessington Annu. and the Canterbury Annu. and Reversion, which were to be valued, as also the offices of the *Globe* on Cornhill, and the same to be taken at the valuation.

12. The investments and securities constituting the Annu. Guarantee Fund might be exchanged from time to time with assent of trustees, with or without legal advice.

13. The trustees of this Perpetual Annu. Guar. Fund to meet once every month to transact the bus. of the fund.

14. Trustees resigning or being disqualified to cease to act.

15. Either of the three trustees appointed by the *Globe* annuitants, or the two appointed by the board of L. and L., might be removed by the respective parties.

16. New trustees might be appointed by the respective parties.

17. Meetings of annuitants to be convened and conducted in usual manner of meetings called by the L. and L. No annuitant of less than £30 p.a. to vote. Those above on sliding scale.

18. No trusts in relation to the perpetual annuities to be recognized. The registered holder to vote.

19. The trustees of the Perpetual Annu. Fund to receive £300 p.a. to be divided as they should determine, and the L. and L. to provide clerical attendance for the purpose of the trust.

20. All the assets of the *Globe*, after providing for the debts of the Co. payable on or before 29 Sept. 1862, and after providing for (1) the *Globe* Life Annu. Endow. Liability Fund, and (2) The *Globe* 6 p.c. Perpetual Annu. Guar. Fund, to remain the property of the shareholders of that Co., and be disposed of as its directors should determine.

21. Arrangements to be made for combining the names of the two offices. The *Globe* directors to be at liberty to join board of L. and L.

22. An Act of Parl. to authorize these arrangements to be applied for; meantime each Co. to carry on its own bus. This agreement subject to obtaining such Act.

23. All costs and expenses of carrying this agreement into effect to be borne by the L. and L.

Schedules.—The first provided for taking over certain special agents and officers of the *Globe* Co. on their then terms of remuneration. The second for the payment of certain annu. to officials who had previously retired on pensions.

This agreement was submitted to a Special General Meeting of the *Globe* proprietors, held 12 Dec. 1862, and approved—it had already been approved by a Special General Meeting of the L. and L. proprietors, held 10 Dec.; but it was then too late to give the required Parl. notices for the next Session, and hence a year's delay in obtaining Parl. powers to carry the same into effect was inevitable.

1864.—There was this year enacted the 27 & 28 Vict. c. cxvi.—*An Act to confirm an Agreement for an Amalg. of the Globe Ins. Co. with the Liverpool and London Fire and Life Ins. Co., and to alter the Name of the last-named Co., and for other Purposes.* The amalg. Co. became henceforth called the *Liverpool, London and Globe Ins. Co.* There were other powers affecting the stock of the L. and L., but these will be reviewed in our hist. of that Co. The legal effect of this arrangement (except as to the small proportion of *Globe* proprietors who accepted the L. and L. stock) was very much like a marriage. The fund providing for the perpetual 6 p.c. annuities was in effect like the bride's marriage portion. Hitherto the union has proved a happy one. The value of the *Globe* annuities in 1874 (ten years after the consummation), which amounted to £49,626 p.a.—showing that of the one million cap. of the *Globe* £827,100 was represented by these annuities—was £1,017,333.

So, under the authority of Parl., there passed out of separate existence one of the most memorable Ins. organizations of the present century.

GLOBE MARINE INS. CO.—This Co. was projected in 1868, with a view to resuscitate the underwriting business of Messrs. Charles Harford and Sons (who had then recently failed at Lloyds) under the form of a Joint-Stock Co. The required cap. of £400,000 was not subscribed, and the project did not mature.

GLOBE MARINE INS. CO. LIM.—This Company was founded in 1870, with an authorized cap. of £500,000, in 25,000 shares of £20. The bus. contemplated was mainly that in connexion with the India, China, Japan, and Australian trade. The scheme of the Co. was that the profits were only to be divided up to the extent of 10 p.c. p.a. on the paid-up cap. until the reserved fund amounted to £100,000; but in the meantime the insured who paid to the Co. £500 and upwards p.a. were to have *pro rata* 25 p.c. of the profits, the directors 10 p.c., and the underwriter 5 p.c. Thus in fact some 50 p.c. of the profits were (including dividend) pre-appropriated. It was certain the reserved fund would in this state of things accumulate very slowly. The progress of the bus. has not been very satisfactory. The Co. has agents in various parts of the world.

GLOBE PERMITS.—A scheme of Fire Ins. was set on foot during the South Sea Mania in 1720, dating from the "Globe" Tavern in Stocks Market. Its promoters hit upon the happy idea of issuing "permits"—permits to subscribe to the stock of this office when ready to be issued. We have given such details as are known of this project under FIRE INS., HIST. OF [Vol. III. p. 475, top.]

GLOBE PROVIDENT INS. CO. LIM.—Founded in 1874 with an authorized cap. of £10,000, in shares of £1, for the purpose of providing a fund for the assistance of clerks and others during sickness, and when out of employment through depression of trade or other unavoidable causes; also to transact every kind of Ins. bus., life ins. excepted. Mr. J. A. Richardson was appointed first manager.

GLOBE (NEWSPAPER) STATISTICAL ABSTRACT OF INS. OFFICES.—In Nov. 1869, the Editor of the *Globe* newspaper [Dr. Mortimer Granville] commenced to collect and pub. the statistics of the Brit. Life Offices under the above title. It cannot be said that the result of his labours conferred any great benefit on Life Ins.

GLONOINE.—A highly explosive substance, compounded of nitre and glycerine. It is sometimes designated "Noble's oil." It is the very Frankenstein of chemical science, with several *aliases*—"glycerine" the most common of them. In its earlier stages *glonoin* was extensively used as a medicine, and was an especial favourite among the homœopaths! See GLYCERINE. [EXPLOSIONS.]

GLOTTIS (from the Greek).—The superior opening of the larynx or windpipe.

GLOUCESTER.—In this ancient city a considerable Ins. bus. has been transacted for many years. There were several fire brigades maintained by the Ins. Offices having branches there, viz. the *Phoenix*, the *Norwich Union*, and the *Liverpool and London and Globe*. There is also the City Brigade, which was established early in the present century. These have hose reels and other modern appliances.

There originally existed here the *Gloucestershire [and Worcestershire] Fire Office*, of which we speak under a separate title.

Mr. (afterwards Dr.) H. W. Rumsey made, in 1848, at the instance of the Reg.-Gen., an investigation into the mort. of this city. We have his own account of the measures he adopted with a view to secure accuracy of result:

I resolved to eliminate from the city death-rate the error caused by the inclusion of public institutions; and I succeeded in tracing almost all the fatal cases of the previous year, in the workhouse, county asylum, infirmary, and county prison, to the towns or parishes from which the deceased patients, paupers, or prisoners came. I separated the deaths due to the city and suburbs from those belonging to rural parishes, and those beyond the regis. district. It is obvious that before this analysis, the city and suburban death-rates were most unfairly exaggerated.

Dr. Buchanan Washbourne continued these inquiries, and found that the differences in the general death-rate caused by the fatal cases in public inst. varied from 1 to 1·6 per 1000 of the pop. We do not think it necessary to reproduce further details.

GLOUCESTERSHIRE AND WORCESTERSHIRE FIRE INS. CO.—Founded probably about 1820, when there was a great mania for founding provincial fire offices, and passed out of existence about 1828.

GLOVER, T. R.—Fire Ins. Statist. He entered the *Royal Ins. Co.* (head office) in 1860, and showing an aptitude for statistical investigation, was for some years engaged in the important work of collating the experience of that office in the principal classes of risks undertaken by it. In 1872 he left that position, and was engaged in bus. pursuits outside Ins. In 1874 he entered the office of the *London and Lancashire Fire*, and for several years was engaged in a similarly important work for that Co.

In 1878 he pub.: *Compilation of Fire Ins. Statistics, upon the best and most expeditious Methods, practically and comprehensively explained; together with full Instructions for Keeping Books of respective Fire Departments by new and improved Economical Systems; and Appendix.* This is a work of great merit and utility, and should be more widely known on each side of the Atlantic. It was never more important than at the present moment for every fire underwriter to have speedy means of testing the results of his bus. in its more important classes.

GLUCOSURIA (from the Greek).—A morbid condition of the urine, in which it contains glucose. [INOSURIA.]

GLUTEAL (from the Greek).—The buttocks; of or belonging to the buttocks; as gluteal muscles, arteries, etc. The large and thick muscle upon which we sit is known in Anatomy as the *Gluteus*.

GLUTTON, GLUTTONY (from the Latin *glutio, I swallow*).—One who eats voraciously or to excess; one who stuffs or gluts himself with food; a gormandizer. The act or practice of a glutton. The words have other and more diffuse significations. The question has often been raised as to what effect gluttony has upon the human system? This point is too technical for discussion here; but what follows will throw some light upon it.

England has often been pronounced to be a nation of gluttons, and there is prob. too much truth in this impeachment. Dr. Thomas Wilson [Dr. of Civil Laws], in his *Discourse upon Usurie*, pub. 1572, speaking of the characteristics of the different nations of Europe, says the charge against the Englishman is "gluttonie in steade of hospitalitie;" and many other authors speak in the same sense—except that we are not in later times usually charged with want of hospitality.

Sir John Sinclair, in his well-known *Code of Health and Longevity*, first published in 1807, says:

Every one is aware that good health depends on a proper quantity of food, and a just proportion of solids and fluids. In polished nations, men commonly eat at least double the quantity of food

necessary, and often four or five times more than they ought to do; and it cannot be doubted, that among the higher orders of society, *almost all the chronic diseases*, and many of the infirmities of old age, as well as the shortness of life in general, are owing to repletion.

The subject will receive further elucidation under LONGEVITY.

Dr. Farr says (32nd Rep. of Reg.-Gen.): "Refined gluttony is as fatal as intoxicating drink." And he asks, "When will the culinary art be kept within its due limits, by simple elegant means please the taste, satisfy appetite, and sustain health? Who will take the lead in this cultivated temperance, and make an effort to put a stop to the ann. sacrifice of so many precious lives?" He is here referring to the increasing proportion of deaths from *Gout*. [GOUT.]

It is very customary to associate (perhaps more by way of joke than in earnest) the Aldermen of the City of London with gluttony, very much on account of the number of public dinners their official life calls upon them to attend. This is only one of many vulgar errors. Mr. J. J. Mechi, the well-known agriculturist, and himself for some few years an Alderman of the City, writing to the *City Press*, 18 Sept. 1878, says:

Our City Aldermen are good living men, but temperate, and their minds are generally fully and variously occupied. During my aldermanship not one of our twenty-six had the gout, except friend . . . who was a most abstemious man, but I believe that he inherited it. Many of them have served the office from 15 to 34 years, and, as a body, their ages are, I am told, above the average.

ABSTINENCE; FOOD; GOURMAND; GOUT; INTEMPERANCE; LONGEVITY; STARVATION.

GLYCERINE.—A sweet substance extracted from fatty substances and oils. Its constituents are, *carbon* 40, hydrogen 9, oxygen 51, in all 100. It was first discovered by Scheele in 1789. In 1847, Mr. Sobrero effected a chemical alliance between glycerine and aqua-fortis—the result of bringing the acid and oil together being to produce a highly powerful explosive called *glonoine*, or nitro-glycerine.

Glycerine in its pure state is now obtained in great quantities from palm oil, in the process of purification for candles. It has many important uses in the arts and manufactures. There can be no doubt that it has added materially to the risks of Fire Ins., alike in its non-explosive as in its explosive form—probably leading to what is designated *spontaneous combustion* of the former case; and working great destruction in its explosive form. See EXPLOSIONS; NITRO-GLYCERINE.

GLYNNE, EVAN OWEN.—Held, in 1843, an appointment in the *Legal and Gen.*, and computed a number of the tables contained in Mr. Jenkin Jones' *New Rate of Mort.* 1843. His services are duly acknowledged in the preface of that work. He died in July, 1845.

GOD, ACT OF [*Actus Dei*].—Every human act may be said to take its origin in one of three forms: either (1) as the act of the individual will; (2) the act of the law, presumptively or otherwise; or (3) the Act of God, as arising out of the irresistible forces of Nature. The responsibility, alike legal and moral, varies with the various directing causes. It has become a proverb that, "for the Act of God no man is responsible;" but proverbs are frequently very misleading when applied to bus. matters; and the considerations involved here are serious.

The Roman Law did not in direct terms admit the plea of "caused by the Act of God," but its distinction of *casus fortuitus*, with its variations of *damnum fatali*, or *vis major*, amount very much to the same thing.

Under the Merchant Shipping Acts the question of injury and loss caused by the Act of God not infrequently arises; and this brings the consideration within the range of Ins. contracts. It is true that the shipowner may by the terms of his bill of lading exempt himself from certain risks, and does so. Thus the modern bill of lading undertakes the delivery of the goods—"the Act of God, the Queen's enemies, fire and all and every dangers and accidents of the seas, rivers, and navigation, of whatever nature or kind soever, excepted." [BILL OF LADING.] This gives rise to the necessity for the protection of *Marine Ins.* The B. of Lading in use by Wells, Fargo and Co., the great carriers ["Express" men] of the U.S., contains the following exemption, "Nor for loss or damage by fire, the Acts of God, or of Indians, or any other public enemies of the Gov." This gives rise to the necessity for *Inland Transport Ins.*

It is perhaps easier to define what is not, than what is, an Act of God. It is clear that no act must be admitted to be such unless it is something unusual, sudden, and certain, and one that no care exercised between the cause and the effect could provide against. An Act of God produces certain immediate results, which results may be confined within these first limits, or may extend indefinitely.

But shipowners may carry merchandise which is not insured; and then, in the event of the loss or damage, questions arise regarding the liability of the owner of the ship to make compensation. Hence is involved the consideration of what constitutes an Act of God, as distinguished from what is simply the result of human carelessness, or want of foresight. Regarding this the Courts are occasionally called upon to decide. And the bearing the question has upon Ins. contracts, as we have already seen, justifies careful consideration at our hands—for heretofore the subject has not been treated in connected form by any Ins. writer.

Definition.—In order to obtain the benefit of the plea "Act of God," it must be shown

that the damage has been caused solely and exclusively by such a direct, violent, sudden, and irresistible act of nature as could not by any amount of ability have been foreseen would happen; or such as could not be resisted to the extent of preventing its effects. And in every case the burden of proof will be thrown upon him who raises this plea.

Turning to the *Digest* (of Roman Law) the definitions there given of *casus fortuitus* have been summed up in the following passage: "*Casum fortuitum definimus omne quod humano capto prævideri non potest, nec cui proviso potest resisti*"—which may be rendered thus—"We define as an accident everything which cannot be foreseen by human effort, and which even if foreseen cannot be obviated." The instances given of *casus fortuiti* are results of the violence of the winds, tempests, storms of rain or hail, thunder, drought, cold, etc.

Accident Ins.—The consideration of this question not unfrequently arises in this branch of Ins. A man pursuing a journey along a highway, and is struck by lightning and killed, furnishes a clear case of "Died by visitation of God." A man overtaken in a storm, and seeking shelter under a tree, which is struck, and he becomes killed or injured, is not so clear a case—for the consideration of voluntary exposure comes in. It is known to be a dangerous practice to seek the shelter of trees during a storm. A more complex case is that of a man driving along a highway: the driver is killed and falls out of the vehicle: the horse is frightened by the occurrence, runs away, and causes personal injury to some other person walking on the highway. All results from the original occurrence; but the liability of the Ins. Co. is presented in varying degrees in the several cases. Buildings and vessels struck by lightning, and causing death or other injuries, are further variations of not very unfrequent occurrence. The contract only insures against *accidental* injuries.

In the case of *Fits* there is more difficulty. A person dying in a fit is said to have died by the Visitation of God. The case is clear, where the pol. exempts fits. But a person seized with a fit while bathing (a not infrequent occurrence), or while in a boat, and falling out? In each of these cases there is the prob. of drowning being found to be the primary instead of the secondary cause. Yet a skilled medical practitioner can nearly always discriminate. A fit while riding may in outward symptoms be represented by concussion of the brain. The *cause of death* in all cases should be the subject of scientific medical examination and certificate.

Fire Ins.—In earlier times Fire Ins. pol. did not cover losses resulting from *lightning*; but very often this condition of things arose: The fire extended from the building first struck to others—and here the Co. became admittedly liable. It is now the practice of Fire Offices to pay for fire losses occasioned by lightning; but the liability does not extend to repairing buildings injured by the electric fluid; as church spires, chimney shafts, etc., etc. [LIGHTNING.]

Glass Ins.—Glass Ins. Cos. are much affected by *storms*; by *explosions*, occasioned by lightning; by *fires*, occasioned in the same manner; and by buildings injured by electric fluid; also by *hail* storms. All these risks are now usually covered in their policies. They are more or less essential risks of the bus. [EXPLOSIONS.] [GLASS INS.]

Hail Ins.—Hail storms may be said to be peculiarly the Act of God, and entirely beyond the control of man, as far as our present scientific knowledge extends. Here the ins. was called into practice directly to meet such losses.

Live Stock Ins.—The Cattle Ins. Cos. sustain severe losses from live stock injured during storms, by electric fluid direct, or by the striking down of the branches of trees, whereunder the animals have sought shelter—but these are ordinary incidents of the risks undertaken.

Life Ins.—Here no special points arise, as affecting Life Ins. Asso., because a life pol. covers risk of death *from all causes*, except self-destruction. But in the case of loss of life by passengers travelling on railways, and by ships, the consideration of the *cause*, as affecting the liability of the "carrier," is very material. The points here involved will be specially considered under MISADVENTURE; but the points hereafter discussed have an important bearing upon such cases. [LAPSED POL.]

Marine Ins.—This branch of Ins. was especially instituted to meet losses resulting from the "peril of the seas." And these, as manifested in storms, seem to be peculiarly the Acts of God, and are certainly beyond human control. But knowing the incidents of maritime navigation, it is an essential feature of Marine Ins. that vessels shall be *sea-worthy*, i.e. able to withstand the storms and tempests expected to arise during the prosecution of the particular voyage to be undertaken. This is always assumed in the case of insuring a ship; and any *laches* on the part of the shipowner in this direction will vitiate the ins. on the vessel. As regards *cargo*, the question of the worthiness does not arise. Nor in any case does the marine pol. seek exemption from loss arising from the Act of God. This is one of the risks specially insured against, as being absolutely not undertaken by the shipowner. *The insurers answer for every peril of the sea.*

It is a remarkable circumstance that until the case of *Nugent v. Smith* arose in 1876,

there had been no judicial exposition of the term "Act of God," as regards the degree of care to be applied by the carrier in order to entitle him to the benefit of its protection. In that case, as reported in *Law Times Rep.* (34 N.S. 827), it was held, that "a loss arising by the Act of God is a loss arising from and occasioned by the agency of nature, which cannot be guarded against by the ordinary exertions of human skill and prudence, so as to prevent its effect." And this is in strict accord with the principle we have already laid down.

The Lord Chief Justice (of England) said in the preceding case :

We must endeavour to lay down an intelligible rule. That a storm at sea is included in the term "Act of God" can admit of no doubt whatever. But it is equally true that it is not under all circumstances that inevitable accidents arising from the so-called "Act of God" will, any more than inevitable accident in general, by the Roman and other Continental law, afford immunity to the carrier. This must depend upon his ability to avert the effects of *vis major*, and the degree of diligence which he is bound to apply to that end. It is at once obvious, as was pointed out by Lord Mansfield in *Forward v. Pitlar* (1 T. Rep. 27), that all causes of inevitable accident, *casus fortuiti*, may be divided into two great classes, those which are occasioned by the elementary forces of nature unconnected with the agency of man or other cause, and those which have their origin either in the whole or in part in the agency of man, whether in acts of commission or omission, of non-feasance or of misfeasance, or in any other cause independent of the agency of natural forces.

The reasoning based upon this (as an able writer in the *Law Times* points out) is that it would be quite absurd to apply the term "Act of God" to the latter class of inevitable accident; that it is not because an accident is occasioned by the agency of nature that the carrier necessarily is entitled to immunity. His Lordship points out in illustration of this that an Act of God may be directly beneficial or destructive, and then proceeds to indicate the effect of another principle. A carrier is bound to do his utmost to protect the goods entrusted to him. If he can protect them by the exercise of proper care and they become damaged, he is liable; if, on the other hand, he is utterly unable to do so, he is not. Then comes the question what degree of care is required to protect him from liability in respect of loss arising from the Act of God. The answer to this question cannot be better given than in the words of the Lord Chief Justice :

All that can be required of the carrier is that he shall do all that is reasonably and practically possible to insure the safety of the goods. If he uses all the known means to which prudent and experienced carriers ordinarily have recourse, he does all that can be reasonably required of him, and if under such circumstances he is overpowered by storm or other natural agency, he is within the rule which gives immunity from the effects of such *vis major* as the Act of God. I do not think that because some one may have discovered some more efficient method of securing the goods which has not become generally known, or because it cannot be proved that if the skill and ingenuity of engineers or others were directed to the subject, something more efficient might not be produced, that the carrier can be made liable.

This furnishes a clear view of the degree of care which must be taken by a carrier who seeks to shelter himself under the protection afforded where results are said to be due to the Act of God. This case of *Nugent v. Smith* lays down, for the first time, a clear enunciation of an important principle previously very obscure in its application.

[FORCE MAJEURE.] [PERILS INSURED AGAINST.] [WARFARE.]

GODDARD, JOHN.—Late Actuary of *Rock Life*. He entered the office of the *British Commercial* in 1820; in 1830 he was appointed Actuary of the same Co., and held that position down to 1847, when he became Actuary of the *Rock*. He retained the last-named position down to 1866, when he retired from the Actuaryship, and became a Director, which position he still occupies.

GODFREY, AMBROSE (frequently designated Dr. Godfrey).—Pub. in 1724: *An Account of the New Method of Extinguishing Fires, introduced by Ambrose Godfrey, of Covent-Garden, Chemist, Written by the Introducer*. We have given an account of the contents of this tract under FIRE ANNIHILATORS.

In 1761 the same (or another) Dr. Ambrose Godfrey was trying further experiments in fire extinguishment by means of chemicals projected into the fire with the aid of gunpowder.

In 1794 there was pub.: *An Account of the New Method of Extinguishing Fires by Explosion and Suffocation, introduced by Ambrose Godfrey, of Covent Garden, Chemist, wherein a Description is given of the several Machines and their Uses, together with Plain and Sufficient Directions for the Proper Application of them; a Method easily practicable, certain in its Effects, and so universally Useful to the Public that His Majesty has been moved to Authorize and Incurage this Happy Discovery, for the general Advantage of his Subjects, by His Most Gracious Letters Patent*.

At this period considerable attention was drawn to this invention.

GODFREY, JOSEPH.—Was Sec. of *Sun F.* for some years preceding and down to 1764.

GODFREY, RICHARD W.—Late West End Manager of *N. B. and Mercantile*, from which position he retired in 1869. He was trained to Ins. bus. in the *West of England* at Exeter; but came to London as a young man and entered the office of *National Mercantile*, remaining with that Co. until its amalg. in 1864, when he received compensation on retirement; and afterwards accepted the position first noted above.

GODFREY, S. GILES.—Secretary of Liverpool Branch of *Edinburgh Life* since 1875.

GODOLPHIN, DR. JOHN, LL.D., and Judge of the Court of Admiralty.—He published in 1661: *A View of the Admiralty Jurisdiction; wherein the most material Points concerning that Jurisdiction are fairly and submissively Discussed, as also divers the Laws, Customs, Rights, and Privileges of the High Admiralty of England, by Antient Records,*

and other Arguments of Law asserted: whereunto is added an Extract of the Antient Laws of Oleron. The latter are arranged under 47 heads or chapters. 2nd ed. 1685. [SEA, DOMINION OF THE.]

GODSALL v. BALDERO.—This famous Life Ins. case, which was before the English Courts in 1803, upon the question of the insurable interest of creditors in the life of their debtors—arising out of the pol. on the life of the Hon. Wm. Pitt—will be considered in some detail under INSURABLE INTEREST.

GODWARD, WM.—Of the *Law Life*, contributed to the *Assu. Mag.* (vol. xvii. p. 266): *Note on a Method of finding the Value of an Annuity on the Last Survivor of Three Lives.* The Editor says that the method “may be conveniently applied to calculate the values of annu. on the last survivor of three lives.”

GODWIN, WILLIAM.—Pub. in 1820, *Of Population: An Enquiry concerning the Power of Increase in the Number of Mankind; being an Answer to Mr. Malthus's Essay on that Subject.* This work has been thought very highly of by some writers on the subject. Its contents will be reviewed under title POP.

GOITRE, or GOTRE (prob. a corruption of *guttar*, the throat).—The name given in Switzerland to Bronchocele, or the Thyrophraxia of Alibert. Hister thought it should be called *Tracheocele*. Prosser, from its frequency in the hilly parts of Derbyshire, called it the *Derbyshire neck*; and not satisfied respecting the similitude of this tumor to that observed on the necks of women on the Alps, the *English bronchocele*. It consists in an enlargement of the thyroid gland, and is frequently associated with Cretinism. [CRETINISM.]

Its effect on the duration of life does not seem to have been much considered.

1872.—Mr. G. A. Lebour, F.G.S., of the Geological Survey, read before the Brit. Asso. at Brighton, a paper: *On the Geological Distribution of Goitre in England.* This paper is referred to in what follows.

1873.—This year Dr. Moffat, M.D., F.G.S., read before the Brit. Asso. at Bradford, a paper: *On Geographical Systems and Endemic Diseases.* The author stated that the results now given confirmed former investigations, viz. that Goitre and Anæmia are endemic on the Carboniferous system, while they are absent on Cheshire, or New Red Sandstone. He wished it to be understood, however, that the obs. were made only in the district in which he resided.

Referring to a suggestion made by Mr. Lebour [in the paper already cited], that the cause of Goitre “is the metallic impurities in the water,” and to another statement “that it prevailed most where ferruginous water occurred,” the author stated that iron medicinally administered produced beneficial effects; but when ferruginous water was taken daily, it produced a low state of health, and in that way might predispose to the formation of Goitre; but such water would not cause anæmia. He observed that it was very doubtful, however, if water containing iron was ever used as a potable water, or for culinary purposes—one grain per gallon rendering it unfit for making an infusion of tea.

See FRANCE, “Vital Statistics,” subheading *Disease*. [GEOGRAPHICAL DISTRIBUTION OF DISEASE.]

GOLD.—The effect of the new discoveries of gold in Australia, and soon afterwards in California, towards the middle of the present century, caused some anxiety, and much speculation as to its probable effect upon the future rate of interest to be realized upon investments. In the *Assu. Mag.* will be found three interesting papers bearing upon the question, viz.

1853.—Review by the Editor of Mr. W. Newmarch's pamph.: *The New Supplies of Gold; Facts and Statements relative to their Actual Amount, and their Present and Probable Effects* (vol. iv. p. 78).

1856.—Note by the Editor (Mr. Charles Jellicoe): *Comparative Value of Gold in Different Countries* (vol. vi. p. 104).

Letter from Mr. Frederick Hendricks: *On the Comparative Value of Gold in Different Countries*, and another on the same subject (vol. vi. pp. 176-7).

We do not pursue the inquiry in detail, because as a matter of fact the increasing demands of commerce have absorbed the extra supply of gold, and there has been no appreciable disturbance.

GOLD, PAYMENT IN.—During the late American Civil War, when gold for some time stood at an extraordinary prem., in relation to the currency of the nation, it became usual, and indeed almost necessary to stipulate in the pol. alike how prems. and how claims under pol. should be paid—whether in gold or currency.

Some curious legal questions arose out of this state of things; and in the case of *Luling v. Atlantic Mut. Ins. Co.* it was held, that where the insured paid the prem. in gold coin, and in consideration of such payment the insurer agreed to pay the losses, if any, in gold coin, he was bound by his agreement, and upon losses occurring he must pay them in the stipulated coin. But he was not bound to pay any contingent dividends or profits to which the insurer might be entitled, by virtue of the Charter under which the insurer issued the pol., in gold coin. In the first case the insurer was bound to pay in gold coin by contract; but in the second case the law would imply no such agreement independently of the understanding or contract of the parties. (50 Barb. 520.)

Ins. Cos. with agencies in various parts of the globe may do well to keep this point in view. [RATE OF EXCHANGE.]

GOLD REGIONS OF AUSTRALIA, LIFE INS. IN.—The *Anglo-Australian* Life organized in 1853 a system of "Life Ins. at the Gold regions," of which we have given some details in the hist. of that office.

In the U. S., during the gold mania in, and consequent emigration to California, there was a scheme of ins. set on foot by which fathers could gain an insurable interest in their sons' lives, to the extent of the outfit involved. This will also be spoken of under INSURABLE INTEREST.

GOLDEN CROWN OFFICE.—Estab. at Nixon's Coffee House, Fetter Lane End, in Fleet Street, in 1712, as a "Little Go" of Ins. See GAMBLING INS. this date.

GOLDEN DECADE.—Under Climacteric we have reviewed the supposed stages of human life. But the terms employed in relation to this subject by different writers are variable, and confront us constantly under different designations. Dr. Beard, an American writer, who investigated the question about 1877, stated that from analyses of the lives of a thousand representative men, in all the great branches of the human family, he made the discovery that the "golden decade" was between 40 and 50; the brazen between 20 and 30; the iron between 50 and 60. He also stated that men are at their best at that time when enthusiasm and experience are almost balanced. The period, on the average, is from 33 to 40.

GOLDEN AND SILVER OFFICE OF MERCHANT CONTRIBUTORS, "at the Fox and Hounds without Bishopsgate, near Artillery Lane," estab. 1712 as a "Little Go" of Ins. See GAMBLING INS. this date.

GOLDEN STAR OFFICE, IN NICHOLAS LANE, LOMBARD STREET.—This appears to have been the name of the office occupied by the *Honourable So. of Contributors*, who founded one of the "Little Goes" so prevalent in 1712. See GAMBLING INS. this date.

GOLDSMITH, THOMAS BOROUGH.—Was promoter, and afterwards Man. of the *Universal* Fire (founded 1871) during the greater part of its brief career. We believe he had not been previously known in any prominent position in the Ins. world. His next step was the founding of the *British, Colonial, and Foreign Property Co.* in 1874, which had some good features, but did not obtain the required capital. Not disheartened, he founded the *Hecla* Fire in 1875, which had an existence of a few months only. Another Company with a nearly similar title was placed upon the stocks, but did not mature. Then the *Safety Mut. Fire* was put forward in 1876, by Mr. T. Perl (said to be another designation for Goldsmith). The last venture, too, got stifled in the birth. In 1877 he projected the *West Riding Mut. Fire*, "Guaranteed and Lim." The guarantee was weak, but the "limited" was very speedily realized. In the *Post Mag.* 21 April, 1877, will be found some biographical details, for which we have not space here; and later in the *Finance Chron. and Ins. Circular*, 1 Oct. 1879.

GOLDSMITHS AND JEWELLERS ANNU. AND ASYLUM INST.—Founded 1827, as a species of Provident Annu. Asso. Up to 1875 it had afforded permanent aid to 176 of its members, and then had on its funds 19 male and 20 female pensioners, in addition to 16 persons who enjoyed the benefit of residence in the Asylum.

There are two kindred Asso.—the *Goldsmiths Benevolent Inst.*, and the *Silver Trade Pension So.*, concerning which we have no details. [PROVIDENT ASSO.] [WIDOWS FUNDS.]

GOLDSMITHS AND UNIVERSAL LIFE INS. CO.—Projected in 1851, by Mr. Benjamin Bodman, Sol.; but the scheme did not mature.

GOMPERTZ, BENJAMIN, F.R.S., F.R.A.S.—Late Act. of the *Alliance F. and L.*, which position he held from the commencement of the Co. in 1824, down to 1847, when the condition of his health rendered retirement essential.

A curious anecdote relative to the then Nathan Rothschild and Mr. Gompertz, not many years ago found its way into print. Nathan, so the story runs, was leaning one day, early in the spring of 1824 [?1823], against his favourite pillar in the Royal Exchange—long known as "the Rothschild Pillar"—his hands in his pockets, when his cousin Gompertz ran up to him in a high state of excitement. "Vat ish de matter?" queried Rothschild. Thereupon the other recounted in gasps how he had been applying for the vacant actuaryship of a large Ins. Co. [the *Guardian*], and had been beaten in the competition (though being admittedly the best candidate), on account of his religion; the directors declared they would have no Jew. Now Nathan too got excited. "Vat!" he cried, disengaging his hands from his pockets, and laying hold of his brother-in-law by the shoulders, "Not take you pecause of your religion! Mein Gott! Den I will make a bigger office for you than any of 'em." And Nathan was as good as his word.

The D. of Sett. of the *Alliance* (the Co. so founded by the elder Nathan Rothschild) contains the following:

"13. That there shall be an Actuary of the Co., and that Benjamin Gompertz, of Vauxhall, in the County of Surrey, Esq., shall be the present Actuary and Head Officer of the Co."

The biographer of Mr. Gompertz gives the following version of his introduction to the bus. of Life Ins.:

In the year 1823, when he suffered under the severe visitation of the death of his only son—a boy then 9 years of age—his friends felt that he could only gain relief of mind by altogether devoting himself to a profession, which seemed to be most congenial to his feelings. Chiefly through the endeavours of his friends, Sir Moses Montefiore, Messrs. N. M. Rothschild, and Samuel Gurney, he was appointed Act. to the *Alliance*, . . . which was founded at that time.

This is followed by another announcement of considerable interest :

Having had only one month allowed him to prepare all the rates and regulations of the Co., he without hesitation adopted the *Carlisle T. of Mort.*, which he found satisfactorily to agree with the *Equitable* experience. The office under his guidance made most satisfactory progress. One measure the directors of his Co. were most anxious to promote at the time, viz. *to compete with Gov. as to the grant of annuities*. This he opposed strenuously. The terms on which the Gov. were granting these annu. were based on the *Northampton T.*, which, though safe enough for assurances, could not but entail ruinous consequences with regard to annu. *Eventually he even convinced the able Gov. Act., Mr. John Finlaison, of the heavy loss that was caused by using these T.;* and in the year 1829 those rates were superseded by the higher ones based on the mortality experienced by Government annuitants.

We do not remember that Mr. Finlaison ever acknowledged the source of his inspiration in this important matter ! But the foregoing presupposes a familiarity with the operations of Ins. Asso. which requires some explanation ; and this carries us back for a few years.

As far back as 1798 young Gompertz had taken a prominent part in answering the ingenious questions contained in the *Gentleman's Mathematical Companion*. In this manner he had made the acquaintance of some of the leading mathematicians of the day, such as Ivory, Nicholson, Griffith Davies, and probably Francis Baily. At a later period he joined the Mathematical So. As early as 1806 he had communicated to the Royal So. his first paper on a scientific mathematical subject. In 1819 he was elected a Fellow of the Royal So., and in 1820 he was one of the founders of the Astronomical Society.

1820.—Mr. Gompertz this year presented to the Royal So.: *A Sketch of an Analysis and Notation applicable to the Value of Life Contingencies*. In the intro. he forcibly dwelt upon the desirability that Ins. Cos. should promulgate the information and experience they *individually acquired*, with a view to be guided by more truthful T. than were at that time acted on. "He expressed the hope that Act. of different Sos. would, by their mathematical skill, collect for the common good of all, from multiplied resources, that which they could not obtain from a less general obs." This from his biographer, who adds :

All this will, no doubt, be considered very trite at the present day ; but we must recollect that the science of Life Ins. was at that time in its infancy, and that it required continual urging before the Gov. could be induced to ascertain the mort. of its annuitants, and the authorities of the *Equitable* So. that of their assured.

Regarding the latter So. we are told by the same authority, that Mr. Gompertz was the first to make known, with any degree of accuracy, the mort. that prevailed amongst its members. "Mr. Morgan, in the sixth edition of Dr. Price's work on *Rev. Payments*, compares the mort. experienced at the different decennia of life in the *Equitable* So. with that deduced from the *Northampton T.* By the help of a lemma [vide *Phil. Trans.* for 1825, p. 526], and the application of his law of mort., to which we shall refer further on, Mr. Gompertz constructed a complete T. of Mort., starting from age 10, which tallies very closely with that deduced by Mr. Griffith Davies. Now, although the obs. of both these gentlemen on this head were made public about the same time, viz. the year 1825, yet on reference to Mr. Gompertz's orig. manuscripts, it will be seen that he framed the T. in its more important particulars prior to Oct. 1820."

The T. here referred to was never produced in the ordinary form of Life T., but it led to important results in other directions, as will be seen by what follows. [LIFE CONTIN.] [MORT., LAW OF.] [NOTATION.]

1823.—The anecdote respecting Mr. Gompertz's loss of the appointment of Actuary of the *Guardian* must, so far as it has any foundation in fact, date during the present year. [DAVIES, GRIFFITH.] That he was an applicant for the position his biographer admits ; but he adds, that so far was Mr. Gompertz from feeling piqued towards his competitor, "who had been in his way on several previous occasions," that he was all the more obliging. Eventually he introduced Mr. Davies at the Royal So., and soon after carried his election as a Fellow. This was as it should be.

1825.—Mr. Gompertz placed before the Royal So., his now well-known paper: *On the Nature of the Function Expressive of the Law of Human Mort., and on a New Mode of Determining the Value of Life Contingencies*. In a Letter to Francis Baily, Esq., F.R.S. This was really a sequel to the paper of 1820. The author having in his earlier investigations remarked that for certain intervals the law of mort. approaches nearly to a geometrical progression, conceived the idea of looking upon it as involving the actual law of nature. He estab. the law *à priori*, by supposing a person's resistance to death to decrease as his years increase, in such a manner that at the end of equally infinitely small intervals of time he loses equally infinitely small proportions of his remaining power to oppose destruction. He further supposes that among any given number of persons of equal vital powers, the prob. of death is the same, but this is inversely proportional

to the vitality. And thus was evolved the famous "Hypothesis" which will ever hereafter be associated with his name, and of which we shall speak under a separate title later.

1827.—Mr. Gompertz gave evidence before the Select Parl. Committee on the Laws respecting Friendly Sos. He said he had made a comparison with Mr. Finlaison's Gov. Annu. T. with regard to the expec. of life, "and I find almost throughout a very great agreement with the *Carlisle* T., excepting at the very early ages of life." The following questions and answers then occur (p. 34) :

[Q.] Are the Committee to understand that you mean to say that the *Carlisle* T. are those that you would recommend—that they are the best T. which now exist for the purpose—or that you think they are the best T. that under the circumstances could be made?—[A.] I do not mean to say that exactly, *because there may be some difference in different stations of life*; and therefore if we wish to have the best T. it would be necessary to know to what particular station of life they are meant to apply; all persons who would apply to the F. Sos. for assistance would not be in equal situations, although they may be equal in point of pecuniary circumstances.

[Q.] Then you mean to say that there are no T. which you could recommend to be taken as a general rule for T. for F. Sos., but that of those which exist, the *Carlisle* T. are the best?—[A.] I should think that we should not be running much risk in taking the *Carlisle* T. as a general rule, because it appears to me that if they are at all erroneous, it would only be in point of giving the So. more security than is absolutely required.

Mr. Gompertz came very naturally to be regarded as one of the great champions of the *Carlisle* T. He was also known as an accomplished Act. His biographer says, "The ability with which Mr. Gompertz conducted Office valuations as well as other actuarial calculations may be seen from the fact that at the public sales of Reversions, etc., his opinion ruled, more or less, the market. The mode in which he treated questions for the sale of Life Annu. and Contingent Rev. property is interesting, but a description of it would carry us too far."

1837.—The dealing in Life Interests and Reversions was now becoming so general that Mr. Gompertz recommended the formation of a Co. whose exclusive bus. it should be to trade in such matters. The *National Reversionary Investment Co.* was accordingly this year founded, and Mr. Gompertz became its Act. A Co. of the same class had been estab. in the preceding year.

In add. to the preceding, Mr. Gompertz was at this date frequently consulted by F. Sos. and other Provident Inst. For the Widows and Orphan Fund, in connexion with the Army Medical Fund, he made an elaborate investigation, and revised the rates of contribution. He also took an active part in promoting the collection of the data for *Experience* T. (No. 1)—his office contributing its experience, and he being on the Committee—pub. 1843.

1847.—We now reach the period when the active powers of mind which had been sustained for a full half century began to flag. Mr. Gompertz resigned his position of Actuary to the *Alliance* this year. He continued, however (says his biographer), sedulously to attend the meetings of the different learned Sos. to which he belonged, and otherwise to promote their interest. The Statistical So., which he aided in founding, and the Inst. of Actuaries, may be especially named. Latterly he became a martyr to gout, and could not leave his house, or indeed, even his bedroom.

1853.—In the *Assu. Mag.* vol. iv. p. 245, will be found a letter from Mr. Gompertz explanatory of his views upon the expression "Compound Interest."

1860.—He prepared for the International Statistical Congress, which met in London, a paper: *On one Uniform Law of Human Mort., from the Age of Birth to Extreme Old Age, and on the Law of Sickness*. This paper contains much interesting matter, more particularly relating to the physiological basis of the author's theory of mort. It will be fully reviewed under our next title. The paper itself is reprinted in *Assu. Mag.* vol. xvi. p. 329.

1861.—Mr. Gompertz presented to the Royal So. this year: *A Supplement to two Papers, presented to the Royal So., and pub. in their Transactions, in the Years 1820 and 1825, on the Science connected with Human Mort.; being Further Illustrations and Researches on that Subject, and also Hints on Human Invalidity*. This paper was printed in separate form in 1862. We shall speak of it more in detail under next title.

1864.—A second Supplement was presented to the Royal So. this year under the title of ——. This consists of a few sheets of MS., and has never been printed. It contains some valuable suggestions on the commutation T. of Barrett; and professes to give a method by which the then existing competition amongst Ins. Offices—which the author considered injurious to their interests—might be checked!—*Adler*.

Mr. Gompertz died on 14 July, 1865, having reached the ripe age of 86. An excellent memoir of him appears in the *Assu. Mag.* vol. xiii. p. 1, from the pen of Mr. Marcus N. Adler, M.A., who now occupies the chair so long and so ably filled by the distinguished scholar whose Ins. biography alone we here furnish.

GOMPERTZ'S HYPOTHESIS [OF THE LAW OF HUMAN MORT.].—In the preceding biographical sketch, we have briefly traced the investigations which led up to the original discovery of this Hypothesis; or perhaps we ought to say, which lent confirmation and authority to it—for we suspect the idea was evolved in the brain of the author, as a consequence of partial coincident obs. in the first instance. This we think is rendered

clear by the language of Mr. Gompertz himself in his 1825 paper, as follows, omitting passages not material :

In continuation of Art. 2 of my paper on the valuation of Life Contin., . . . in which I observed the near agreement with a geometrical series for a short period of time, which must pervade the series which expresses the number of living at ages in arithmetical progression, proceeding by small intervals of time, whatever the law of mort. may be, provided the intervals be not greater than certain limits: I now call the reader's attention to a law observable in the T. of Mort., for equal intervals of long periods. . . .

This law of geometrical progression pervades in an approximate degree large portions of different T. of Mort.: during which portions the number of persons living at a series of ages in arithmetical progression will be nearly in geometrical progression.

He refers to and gives examples from *Deparcieux's* and the *Carlisle* Tables, in illustration, and then proceeds to the next stage of observation :

The near approximation in old age, according to some T. of Mort., leads to an observation that if the law of mort. were accurately such, that after a certain age the number of living corresponding to ages increasing in arithmetical progression, decreased in geometrical progression, it would follow that life annu. for all ages beyond that period were of equal value; for if the ratio of the number of persons living from one year to the other be constantly the same, the chance of a person at any proposed age living to a given number of years would be the same, whatever that age might be; and therefore the present worth of all the payments would be independent of the age, if the annu. were for the whole of life; but according to the mode of calculating T. from a limited number of persons at the commencement of the term, and only retaining integer numbers, a limit is necessarily placed to the tabular, or indicative possibility of life; and the consequence may be, that the value of Life Annu. for old age, especially where they are deferred, should be deemed incorrect: though, indeed, for immediate annu., where the prob. of death is very great, the limit of the T. would not be of so much consequence—for the present value of the first prem. would be near the value of annu.

He proceeds to state that such a Law of Mort. would indeed make it appear that there was no positive limit to a person's age; but (he adds) "it would be easy, even in the case of the hypothesis, to show that a very limited age might be assumed to which it would be extremely improbable that any one should have been known to attain"—

For if the mort. were, from the age of 92, such that one-quarter of the persons living at the commencement of each year were to die during that year—which I have observed is nearly the mort. given in the *Carlisle* T. between the ages 92 and 99—it would be above one million to one that out of three millions of persons, whom hist. might name to have reached the age of 92, not one would have attained the age of 192, notwithstanding the value of life annu. of all ages above 92 would be of the same value. . . .

He then reached the third stage of his reasoning, wherein he assumes the possibility that death may be the consequence of two generally co-existing causes—the one chance, without previous disposition to death or deterioration; the other a deterioration, or an increased inability to withstand destruction. If, for instance, there were a number of diseases to which the young and old were equally liable, and likewise which should be equally destructive, whether the patient were young or old, it was evident that the deaths among the young and the old by such diseases would be exactly in the proportion of the number of young to the old—provided those numbers were sufficiently great for chance to have its play; and the intensity of mort. might then be said to be constant. [FORCE OF MORT.]; and were there no other diseases but such as these, *life of all ages would be of equal value*—for the number of living and dying, from a certain number living at a given earlier age, *would decrease in geometrical progression as the age increased by equal intervals of time*. "But if" (as an alternative assumption) "mankind be continually gaining seeds of indisposition, or in other words, *an increased liability to death* (which appears not to be an unlikely supposition with respect to a great part of life, though the contrary appears to take place at certain periods), it would follow that the number of living out of a given number of persons at a given age, at equal successive increments of age, would decrease in a greater ratio than the geometrical progression—and then the chances against the knowledge of any one having arrived to certain defined terms of old age, might increase in a much faster progression, notwithstanding there might still be no limit to the age of man."

He proceeds to reason that if the average exhaustion of a man's power were such that at the end of equal infinitely small intervals of time, *he lost equal portions of his remaining power to oppose destruction*, which he had at the commencement of those intervals, then at any given age, his power to avoid death, *or the intensity of his mort.*, might be denoted by a simple mathematical formula, which he proceeds to give. Then occurs the following important passage :

This equation between the number of the living and the age becomes deserving of attention, not in consequence of its hypothetical deduction, which in fact is congruous with many natural effects, as, for instance, the exhaustions of the receiver of an air-pump by strokes repeated at equal intervals of time; but it is deserving of attention, because it appears corroborated during a long portion of life by experience. As I derive the same equation from various pub. T. of Mort. during a long period of man's life, which experience therefore proves that the hypothesis approximates to the law of mort. during the same portion of life; and in fact the hypothesis itself was derived from an analysis of the experience here alluded to. (p. 9.)

We have preferred to follow closely the wording of the author up to this point; but it must be admitted that his sentences are somewhat involved, and hence perhaps has arisen, in some degree at least, the contention of others to have evolved the same fundamental idea—whereas they have in truth only made more clear, or put in more forcible language, the reasoning which is here employed by Mr. Gompertz.

As it is outside the purposes of our publication to reproduce the algebraic formulæ employed in scientific reasoning and illustration, we must be content to say, in brief, of the first part of the paper, that it treats on the nature of a function expressive of the law of Human Mort. based upon a physiological principle of high probability; and furnishes a new mode of determining the value of Life Contin. The fundamental assumption of the author is, as we have seen, that a person's power of resisting death decreases as his years increase, in such a manner that at the end of equally infinitely small intervals of time, he loses equally infinitely small portions of his remaining power to oppose destruction. He further supposes that, among any given number of persons of equal vital powers, the prob. of death is the same; but that is inversely proportioned to the vitality.

The paper which he contributed to the International Statistical Congress in 1860, and hereinafter referred to, gives some important details in elucidation of the theory here propounded.

In the analytical elucidation of the hypothesis which the author gives in the paper before us, errors have crept into the text, which the author had intended to correct [*vide* his letter in *Assu. Mag.* vol. ix. p. 296]; but his biographer has given the corrections required in the proof of the fundamental proposition [*Assu. Mag.* vol. xiii. p. 13]. He has also shown other laws by different authors, as De Moivre, Lambert, Thomas Young, Babbage, Littrow, and Moser, passing over D'Alembert's, Daniel Bernoulli's, and Duvillard's analytical investigations, which had for their chief object the determination of the mort. produced by smallpox. Speaking generally of the formulæ of these writers, Mr. Adler (memoir of Gompertz) says: "They not only compare unfavourably with Gompertz's law, on account of being purely empirical, but also on account of their being (with the exception of De Moivre's law [DE MOIVRE'S HYPOTHESIS]) of so unwieldy a character as to be altogether unfit for practical use. Besides, these laws will only bear comparison with individual T. of Mort." Gompertz's original formula (paper 1820), and Makeham's modification thereof, appear to be included in the condemnation?

Prof. De Morgan said (*Assu. Mag.* 1859) of Gompertz's paper, that it was not by any means so well known as it ought to be, even by actuaries. It was the first attempt at an hypothesis on the law of mort. from a physiological point of view. Again, and more forcibly, he said in 1865 (*Athenæum*, 22 July), "Had the law been propounded in the days of Newton, vitality would have been made a thing of, like attraction." But yet it must be remembered that the formula has been extensively used for purposes of interpolation, and adjustment of T. of Mort., as, for instance, the *Amicable Experience T.* by Galloway, 1841; *Life Contingency T.*, by E. J. Farren, 1850; *Rates of Prem. for Assu. of Military Officers in Bengal*, 1851; *Eagle Mort. Experience T.*, 1854; *Royal Ins. Co.'s Experience T.*, 1860; and prob. some others.

Mr. Gompertz had himself examined the coincidence of his law with several Mort. T. of the best authority, such as Deparcieux's (ages 15 to 55), *Northampton* (ages 15 to 55), *Carlisle* (ages 10 to 60, and 60 to 100), and *Swedish T.* (ages 10 to 50)—obtaining in each case the necessary constants, by what he termed his "Vital Rule of Three." And it was undoubtedly this recognized coincidence which led to his formula being employed as already stated. But it was upon the Mort. Experience of the *Equitable So.* (ages 20 to 60) that he constructed his Experimental T., as we have shown under *EQUITABLE SO., MORT. EXPERIENCE OF, 1825*. But the results so obtained differed from the other pub. T. of the experience of that So.

In the second part of this paper (of 1825) Mr. Gompertz points out how annuities on several lives may be computed by the use of the T. called by him "accommodated ratios," wherein he assumes the number of persons living at equal intervals of successive ages to be in simple geometrical progression—the periods being taken sufficiently short to permit this assumption to be a near approximation to truth.

It will be more convenient to follow out Mr. Gompertz's improvement, and extension of his own law, which took place in 1860–1, although in doing so we must break out of chronological sequence, and for the moment pass over various incidents arising out of the original discovery—especially the labours of Messrs. Woolhouse, Sprague, and Makeham, towards its improvement. All these will be passed under review subsequently.

1860.—In July, this year, the International Statistical Congress held its sitting in London. Mr. Gompertz had been invited to attend. His health did not permit him to do so; but he sent a contribution in the shape of the paper: *On one Uniform Law of Mort. from Birth to Extreme Old Age, and on the Law of Sickness*. Some of its passages are of high importance as elucidating the views of the author regarding his Hypothesis. Thus:

In the year 1820 I had the honour to have a paper of mine printed by the Royal So. in their Trans. . . . in which I believe there are many improvements offered in the mode of investigations respecting the subject, and means shown of meeting difficulties in the inquiry not then known to the public. . . .

He proceeds to speak of his paper of 1825—

Which contained a theorem relative to human mort., which has received and does still receive much flattering attention from scientific men usefully devoted to this branch of mathematics. My health has prevented me from pub. more on the subject since then. But my mind at intervals up to the year 1845 or thereabouts . . . has been engaged on the subject of what is called Vital Statistics;

and I have been for above two years past, though much prevented by the state of my health, attempting to write a supplement to these two papers—which supplement is not finished, nor can I reasonably hope that it will be shortly finished, so as to enable me very early to present it to the Royal So. . . . I am therefore led to suppose that some hints relative to this interesting subject may not be considered unimportant.

He then proceeds to state that in the paper of 1825 he had employed symbols (though not the same he now used) which “were supposed to represent constant quantities, or at least were shown to differ very little from constants for a very long term of years, for instance about 50 years, but differing a little for length of term, and from one locality to another.” He had never pretended that the symbols were absolutely constant: “They were determined by a random selection from three different periods of age, from a statement of the number of persons who will be living at different ages, out of a certain number of persons stated to have been born,” and therefore as his symbols would not perfectly, during the whole term of life, express the facts, if they were taken as constant, “it is evident that they should not be considered as absolutely constant; and it is evident that their values will be found somewhat to differ, by the difference of periods of the three selections of ages.” But he had in his paper, by the introduction of the “Vital Rule of Three,” sufficiently implied that his symbols had “each different values, according to the different periods of selection.” He did not, however, “on that account fall in with the views of a gentleman, who, since my paper has been pub., seems to fancy that there are three distinct periods, between which there are three distinct laws of mort.” He continues:

By some gentlemen who have set much value on the theorem, obtained by one of the same Vital Rules of Three (as there are four necessary, as will be hereafter explained, to obtain the one continuous and uniform law of mort., from birth to at least the age of 100), it has been merely considered as a mode of smoothening down the irregularities found in other modes of forming T. of Mort.; and as such, even were the theorem used for that object alone, it would be of much value, because there being a very limited set of T. expressing the values of annuities on joint lives, there becomes in consequence a necessity to interpolate values for different combinations from these T. by, for instance, taking first and second differences of a series of terms proceeding irregularly, so that very gross errors may occur in critical cases.

But from the investigation respecting the data of different T. of Mort., and a very particular attention to Mr. Milne's *Carlisle* T., with respect to the mort. occurring in the first months after birth till the age of one year, when compared with his attempt to explain the law of mort., he placed great confidence in his (new) formula as then given. [Even this, however, he had again improved in his paper in 1861 to be hereafter noticed.] See *Assu. Mag.* vol. xvi. p. 332.

He proceeds to argue upon the fitness of his formula for elucidating the law of mort. as he understood it to be; and finally reaches the point of inquiry if there could be any physical cause for the existence of such law? whereon he says:

And setting out with the supposition that life requires certain powers of integration in the material of its necessary organization to be kept up, and that these powers may be divided into two portions—the one of which I call the principal and fundamental part, and the other a distinct and an auxiliary part to keep up the integration; and that there are powers in opposition to them, to destroy the necessary powers of integration of the materials of organization necessary for life; and that should the latter prevail life would be destroyed.

And to show the result of this supposition, he would “use the terms physical functions to be performed by the physical functionaries, whatever these may be, whether the heart, lungs, liver, etc., or some other organ of the living frame”—for he did not pretend to say which were the functionaries acting—whilst he endeavoured to draw from statistical data, mathematical functions which were to express for any age, the number living at that age, out of the number born any given number of years previously; the resulting force to destroy life (which remained of the destroying force, after the auxiliary force for maintaining of life was deducted)—or, in other words, for the intensity of that excess due to each individual of the number of persons living at any given age; the total force to produce destruction of them all. Hence the quantity of death, or loss of life amongst them all, might be measured at any given time. The resulting formula will be found in *Assu. Mag.* vol. xvi. p. 334. The force remaining at different periods of life is illustrated by reference to the density of air in the recesses of an air-pump after a certain number of equal strokes of the piston.

But to render the theory of mort. more complete than the state in which the above obs. had left it, the author thought it necessary to show that, “though the formula above would appear to require that all individuals of a birth in the same locality should have ultimately the same length of life, and to indicate that each lost an absolute and equal portion of his life between two given ages, and still continued to live on with the mutilated portion of life remaining—which would evidently be a most absurd conclusion”—he proceeds “to reconcile the formula, or rather theory, with the state of nature, and to show how it comes to pass, that, consistently with the theory, different persons live to different ages.” (*Assu. Mag.* vol. xvi. p. 337.)

The formula as now developed by Mr. Gompertz is applied to the *Carlisle* Mort. (unadjusted results), and the decrements are placed in parallel cols. with the adjusted results of Milne, as follows. We give a quinquennial abstract only as being sufficient for the purpose of illustration:

GOMPERTZ's *Formula*, applied to CARLISLE Data; and MILNE's *Adjusted Results compared*.

Age.	Gompertz's Formula.		Carlisle Table (Milne).		Age.	Gompertz's Formula.		Carlisle Table (Milne).	
	Living.	Dying.	Living.	Dying.		Living.	Dying.	Living.	Dying.
0	10,000	1538	10,000	1539	55	4,024	79	4,073	73
5	6,812	122	6,797	121	60	3,604	93	3,643	122
10	6,472	38	6,460	29	65	3,100	116	3,018	124
15	6,187	38	6,300	39	70	2,462	146	2,401	124
20	6,090	42	6,090	43	75	1,700	156	1,675	160
25	5,872	47	5,879	43	80	953	170	953	186
30	5,629	52	5,642	57	85	413	73	445	78
35	5,360	57	5,362	55	90	145	30	142	37
40	5,066	62	5,075	66	95	38	9	30	7
45	4,746	67	4,727	70	99	12	3	11	2
50	4,399	72	4,397	59	100	9	...	9	...

While in the preceding T. the comparison "appears very satisfactory," Mr. Gompertz points out that in Mr. Milne's *Carlisle* T. there is given the mort. for the ages of birth, 1 month, 2 months, 3 months, 6 months, and 9 months; and he proceeds to make a comparison of the results obtained from his formula for these periods. He finds there is in the younger periods a wide discrepancy, or, in his own words, "it appears that while at the age of 12 months and 9 months there is a great proximity, that to the age of 6 months the formula gives less deaths by about 10 p.c.; but that during the first month there is only about one-third of the deaths which occur in Milne's T." And reflecting "more particularly on the large number of deaths which in Mr. Milne's T. take place in one month in comparison with the deaths which in that T. take place in the following months," he finds that his formula "stands in need of an additional term"; and when so corrected, the comparison is as follows:

Living.	At Birth.	At 1 Month.	2 Months	3 Months.	6 Months.	9 Months.	12 Months.
By Milne—Deaths in	10,000	9467 533	9313 687	9226 774	8970 1030	8715 1285	8461 1539
By Formula—Deaths in	10,000	9467 533	9313 687	9253 747	9046 954	8747 1283	8462 1538

He proceeds to state that the Vital Rule of Three is applicable very satisfactorily to sickness prevailing in the different districts in all England, and in the whole of Scot., as given in the *Statist. Journ.* Dec. 1845 (Neison); as also to Mr. Ansell's Sickness T. He then passes on to a consideration of the general advantages of such a formula as his own; and here it will be important to follow him closely:

The exact law of mort., or a very near approach to it, being expressed analytically, gives a vast scope to the analyst of means to solve most intricate questions respecting Vital Statistics. When the supposed law was that of equal decrements, occurring ann. in the number of living from some particular age, originating from birth and proceeding in the same exact law to old age, our powers of obtaining any moderate accuracy to the solution even of very simple problems, was extremely small. The late excellent Mr. W. Morgan . . . saw the effect of adopting that incorrect hypothesis, and made his calculations of the values of annu. from a T. which appeared to him to represent the mort.; but when certain contingencies were considered with respect to order of survivorship in the case, he adopted the hypothesis of uniform and equal decrements, which being adopted, would give the result, that if two persons, though they were of different ages, had died, it would be an equal chance which should have died first,—a curious and useful theorem, if that law could be adopted as a true or near approximation for a long term of years: though the same law of uniform decrement did not prevail for both lives—provided that for the term of one life the decrement remained constant, and for the other life for the same term, the decrement remained constant; but as this is not accurate in any possible continuous and uniform function of mort., in my paper of 1820 I investigated—which is a curious problem—the problem, what uniform and continuous function would give that law between two lives, and I found it.

He then gives the formula, and shows (p. 341) what function was necessary to distinguish between the law of equal decrements, and the law of a geometrical progression, increased by a constant quantity. He then proceeds:

But that these observations may not appear irrelevant, I observe that a law, which I call the real law of mort., shows that the hypothesis of equal chances of survivorship very approximately obtains for a long term of years; a useful hypothesis in cases where there are some lives concerned connected with conditions of order of survivorship between them; but all cases of even as few as three lives, in which one of them is to be assured, by Mr. Morgan's method, or by the slight improvements and some amendments of Mr. Baily, and Mr. Milne, the theorems are tremendously intricate, and I am inclined to say useless, when the calculation is to be made from the value of annuities given by the combination of only two lives.

Therefore, in my paper of 1825, I gave a new method of considering the problems, leading to comparatively simple methods, and gave an easy method of approximating to the value of an annuity of a great number of joint lives, by T. approximating to the value for terms to be added together to any

degree of accuracy, though for different *T*, of Mort.—so that a part of the difficulties was to a great degree met. But the possession of the true, or very approximately true, single and continuous law of mort. from the age of birth, without any interruption of the uniformity, gives a vast command over cases of very great complication of contingencies, whether simple or connected with any proposed order of survivorship; but to give the full advantage of that law, derived from statistical statements, *I found it necessary to introduce what I think may be called a new branch of mathematics*—which I denominate formulated or analytical arithmetic, involving what I call formulated or analytical logarithms and anti-logarithms; but as hints rather than abstruse mathematics seem more adapted for the discussion of the Congress, I think I need not regret that I find it better to reserve that portion of the subject for the Royal So. . . . But I hope to lay before the Congress a sufficient portion of the *T*, calculated from the formula, to enable it to judge if my hints are entitled to its attention, without prejudicing my paper which is intended for the Royal So., in its title for reception.

Finally, he reverts to *Sickness*, and explains how he found the amount of weeks of sickness to any person in a given year of age. By his Vital Rule of Three applied to statistical statements, he found “a similar form to express the powers to preserve health to apply to all ages, very nearly, between 20 and 60; so that the remarkable piston law with respect to the exhaustives of the variable power (added to a constant power) to preserve health, and oppose to the power to support, constant power to destroy health, also appears to be both a valuable physiological fact, and a useful theorem.”

1861.—In June, this year, Mr. Gompertz submitted to the Royal So. his Supplemental paper, wherein he says (Art. 27):

In a paper I had the honour of presenting to the International Statistical Congress . . . I presented a sketch of some investigations I had been making since the pub. of my paper of 1820, and that of 1825, relative to the subject of mort., and on some investigations I had since made on the law of sickness and invalidity subjects. . . . But in my paper . . . [so presented] I did not show how I obtained the formulæ of the one uniform law of mort. . . . from birth to extreme old age, reserving that communication for the honour I intended myself, to present it to this So. . . .

He proceeds to say that he did, however, present the formula which represents the common logarithm of the number living at any specified age, as also the symbols for the “constant quantities from birth to the extremity of old age, to be found from statistical *T*, given of the actual persons living at every age in places to which the formula was meant to apply;” and he proceeds:

These constants I found for *Carlisle Mort.*, *Northampton Mort.*, *Debarcieux's Mort.*, and *Sweden Male and Female Mixed Mort.*, from the examination of pub. statistical *T*; and I computed for these four stated rates of mort. from this formula, by means of these constants, the number of living at every age, and arranged the results opposite the statements, which show a remarkably satisfactory agreement between the formula, and the statement which it is intended to represent throughout, from commencement to every year of age. And in the *Carlisle T*, where there are data for comparison for the first months after birth, where there appears great irregularity in the deaths, even the close approximate agreement seems very interesting. . . .

I gave the results for the *Carlisle Mort.* to the Congress, which were extremely satisfactory, but I did not give the results for the *Northampton Mort.* and for the *Sweden and Debarcieux's Mort.*, which (though with the exception that for the few first months of age these statistical *T* give no data) I find, I think, equally satisfactory; but not having sent the results to the Congress I presume that I am authorized . . . to present as I have done here the results for the *Northampton Mort.*

The results of the comparison are very uniform up to age 80, at and after which there are variations of fluctuating intensity.

He then proceeds, “Slightly to touch upon the law of *Sickness*, though the subject is already mentioned in the paper I presented to the Congress, in consequence of a similarity, as far as I have had data to discover, with the law of mort., I gave the formula, but not the investigation of that formula; but I gave *T* of comparison with the sickness stated to have occurred in different Sos. and in different places, which appear to be extremely satisfactory as to the approximate agreement with the stated results.”

In this part of his investigation he now found that the apparent constants were not truly constant. “There seems to be a distinction between the law of mort. and that of sickness,” which he proceeds to investigate. He finds the divergence so great in certain terms, that it had to “be overcome by the adoption of a subterfuge, which I almost despaired of finding;” and this he proceeds to explain in detail; but the treatment is very complex, and we do not propose to attempt to follow him. Finally:

It was my wish not only to conclude this paper with the three *T*. above mentioned, which have been calculated, but which I have been prevented from examining from causes to which mortality is liable, but also to add some interesting matter. But I hope to be able to add a supplement to this paper, and to be permitted to pub. it in the Royal So.'s Trans. to illustrate the practical adaptation of the analysis, with some other matters of Vital Statistics and invalidism.

This Supplement was prepared and submitted to the Royal So. in 1864. It was very short, and was never printed.

We have followed Mr. Gompertz thus in detail through his several papers, in the hope of throwing light upon the various points which have arisen in controversy regarding the merit of his claim to entire originality. We have seen that he is most frank as to the weak points in his original formulæ; but on the other hand his sentences are frequently very complicated, and his meaning as a consequence much obscured.

We now proceed to notice, in their chronological sequence, the comments and criticisms the preceding papers, and the hypothesis embodied in them, have evoked.

In 1832 Mr. T. R. Edmonds pub. his work: *Life T. founded upon the Discovery of a Numerical Law regulating the Existence of every Human Being; Illustrated by a New Theory of the Causes Producing Health and Longevity*. The author claims to have made an independent discovery of a law of mort., analogous to that upon which Gompertz

based his hypothesis. In later years the right to the claim of independent discovery has been severely challenged. See third art. under date 1860. [EDMONDS, T. R.]

In 1839 Prof. De Morgan (in *Phil. Mag.*, Nov.) propounded a test as to the accuracy or otherwise of Mr. Gompertz's hypothesis, which will be referred to hereafter, under date 1859. This paper was reprinted in the *Assu. Mag.* (vol. x. p. 27), and shows how Mr. Gompertz had improved upon Thos. Simpson's rule for finding the value of an annu. on 3 lives. See 1862, WOOLHOUSE.

In 1841 Mr. Thomas Galloway pub.: *T. of Mort. deduced from the Experience of the Amicable So.*, etc., in the intro. whereof (p. ix), describing the processes of adjustment he had employed, he says :

... These logarithms were first corrected by Mr. Finlaison's method above described ; but as the resulting series still presented considerable anomalies especially near the beginning and end, a further correction was considered necessary, for effecting which I have had recourse to the highly ingenious method proposed by Mr. Gompertz in a paper pub. in the *Phil. Trans.* for 1825. This method is founded indeed on a hypothetical principle, namely, that the vital energy, or "power to oppose destruction," loses equal proportions of its intensity in equal times ; but whether the assumed principle may or may not be precisely in accordance with the law of nature, the mathematical relation which it estab. between the ages and the numbers living furnishes a series of interpolated prob. which in the present case affords as close a representation of the actual mort. as is perhaps attainable, if it be made a condition that the adjusted series shall give a rate of mort. increasing progressively with the age—a condition which one can scarcely help thinking ought to be fulfilled, at least for all the ages in the present T.

In 1850 Mr. Samuel Brown read a paper before the Inst. of Actuaries : *On a General Method of Approximation to the Values of Annu. and Assu., for Long Terms of Years depending on One or Two Lives* (*Assu. Mag.* vol. i. p. 24), wherein he examines carefully the reasoning of Mr. Gompertz, and says thereon :

In a subsequent part of the same paper [1825] Mr. Gompertz has enunciated what may with great prob. be deemed to represent the general law of mort.; *though the circumstances by which it may be modified are so numerous, that it will require great care and attention on the part of those who would apply the formula deduced therefrom, to fix the constants, so as to represent accurately the rate of mort. amongst the class of persons for whom the calculations may be required.*

In 1856 Mr. James Meikle read before the Inst. of Actuaries a paper : *On the Interpolation of Logarithmic Series* ; of which an abstract appears in *Assu. Mag.* vol. vi. p. 200. The author's object was to simplify and popularize what had been written by Mr. Gompertz and Mr. Farrer on the subject. He proceeds to describe Mr. Gompertz's method, which he says—

As applied to the interpolation of series, resulted more from a search after some general law thought to be inherent in T. of Mort., than from an investigation into the methods of graduation and interpolation. Mr. Gompertz observed, that out of a given number alive at one age, the number which according to the original T. survived each succeeding age differed in a very trifling degree from that which he brought out according to his hypothesis, viz. that the law of human mort. proceeded in a geometrical ratio.

By way of illustrating the use of this formula, the author shows how by its use Mr. Jellicoe's T. of Indian rates is constructed ; and concludes this part of his paper by observing that the other modifications proposed by Mr. Gompertz were not generally adopted, "because the values obtained by them will not, in any instance, correspond with those of the orig. T.; and that the series can be continued only by a repetition of the process, and the use of fresh constants, in which case there will be a slight break in the harmony of it."

In 1857 Mr. Peter Gray contributed to the *Assu. Mag.* (vol. vii. p. 121) a paper : *On Mr. Gompertz's Method for the Adjustment of T. of Mort.* This paper has been reviewed under title ADJUSTMENT OF T. OF MORT.; and it falls to be spoken of under GRADUATION, and MORT. T., ADJUSTMENT OF. There are one or two passages which require to be noted here :

... The work containing it is not very accessible ; the form in which the investigation of it is given is rendered forbidding by the employment of the obsolete fluxional notation [of Sir Isaac Newton], and a degree of brevity which renders it difficult to be followed ; while the whole of the paper containing it is so disfigured by typographical errors, as to be in many places almost unintelligible. ...

... We have been investigating not values but forms, and the result at which we have arrived is this—namely, that if the functions expressing the power to oppose destruction be an exponential, the functions expressing the number living will be (so to speak) a double exponential : that is, one in which the exponent is itself an exponential. Of the values of the constants which enter the expression we as yet know nothing : in fact these values will generally be different for different T., and some of them different perhaps for different parts of the same T. They admit of easy determination, however, for any T., by means of the requisite number of values of the function taken from that T. This I proceed to show.

In 1859 Prof. De Morgan contributed to the *Assu. Mag.* (vol. viii. p. 181) a paper : *On a Property of Mr. Gompertz's Law of Mort.* The author says :

It is commonly known that in calculating an annu. on three joint lives, two of the lives are made to count as one life of the same annu. value ; and that the result is approximately true. Twenty years ago (*Phil. Mag.* Nov. 1839), I showed that if the law of mort. explained by Mr. Gompertz were accurately true for the whole of life, this substitution of one life instead of two would also be accurately true. I now repeat the same proposition in more general form.

Required the law of mort. under which the T. of two lives follows the same law as the T. of one life—that is, in which the chance of two or more lives surviving a given term is always equal to the chance of some one life, older than either, surviving a term of the same length. Had any one, observing the usual rule for determining an annu. on three lives, had the curiosity to inquire, *what is the law of mort. for which it is accurately true, he would have arrived at Mr. Gompertz's law of mort. by a totally different route ?* ...

If of 100,000 persons of a given age, any *one* may be expected to die in a week, while of 10,000 of a given older age *two* may be expected to die in a week, it is clear that the power of death over the second set is double of the same power over the first set. Another way of stating it is, that the power of the second set to oppose destruction is half of the power of the first set. Either phrase may be adopted, and either may be objected to; all that is meant is, that the fight between life and death, which is always going on, gives death twice as large a proportion of his possible victims in the second case as in the first. The *intensity of mort.* is twice as great in the second case as in the first. . . .

In comparing his theory with T., Mr. Gompertz found that it applies with singular accuracy through long periods, but requires a change of the constants at one or more periods. . . .

The law of uniform *seniority*, as it may be called, is true for any given and uniform interval of age.

This same year (1859) there was printed in *Phil. Trans.* a paper by Dr. William Farr, F.R.S.: *On the Construction of Life T., Illustrated by a New Life T. of the Healthy Districts of England*, wherein occurs the following passage (part ii. p. 844):

I shall now notice briefly the application of this Hypothesis, first suggested by Mr. Gompertz, and applied by him to the interpolation of the *Northampton* and other T. Mr. Edmonds in 1832 extended the "theory," and applied it to the construction of three Life T. *He gave an elegant formula, similar in principle to that of Mr. Gompertz*, from which the curve of a Life T. can be deduced, upon the above hypothesis. (See 1860.)

In 1860 Mr. W. M. Makeham contributed to the *Assu. Mag.* (vol. viii. p. 301) a paper: *On the Law of Mort. and the Construction of Annu. T.* It was in this paper that the author propounded his own formula, which he designed to be, and which is regarded by many as an improvement upon that of Mr. Gompertz. But respecting the latter he says:

It seems to be generally admitted that the theoretical law of mort. propounded by Mr. Gompertz, *although by no means a perfect representation of the actual law*, at the same time is so nearly borne out by facts, as to render it highly prob. that further progress in the investigation will be made in the track thus opened up; in other words, that practical improvements in the construction of Mort. T. *may be looked for in some modification of Mr. Gompertz's formula.*

It was the object of this present paper to enunciate such a modification, which is now generally known as MAKEHAM'S FORMULA; and concerning which details will be given under that title. (See 1861.)

During this year, also, Prof. De Morgan contributed to the *Assu. Mag.* (vol. ix. p. 86) a paper: *On an Unfair Suppression of a Due Acknowledgment to the Writings of Mr. Benjamin Gompertz*, which requires to be noticed in some detail here. The author says:

In 1839, in the *Penny Cyclo.* (Art. "Mort."), I wrote as follows, referring to Mr. Gompertz's well-known hypothesis on the law of mort. "We enter into some detail of it the more readily, that it is necessary as an act of justice to Mr. Gompertz, whose ideas have been adopted by a recent writer "on the subject, without anything approaching to a sufficient acknowledgment."

The writer of whom I assert that he gave a suppressive account of what Mr. Gompertz had done is Mr. T. E. Edmonds, in a work entitled: *Life T. founded upon the Discovery of a Numerical Law*, etc.; Lond. 1832.

The author says his attention had been again drawn to the subject by two circumstances, which he enumerates: one of them being the passage given by Dr. Farr, and which we have quoted under date 1859, and he proceeds:

I shall not trouble the reader with any account of what I think about the character or motive of the suppression, nor of my own motive in bringing it forward. I will put the case before him, desiring him to consider it no case at all unless, true quotation being assumed, he find it one to which he cannot imagine a sufficient answer. I will add that I have had no communication whatever with Mr. Gompertz on the subject, direct or indirect, past or present.

He proceeds to quote the following passage from Mr. Edmonds' work of 1832 (pp. xvii and xviii): "The honour of first discovering that some connexion existed between T. of 'Mort. and the algebraic expression [giving it] belongs to Mr. Gompertz: but to arrive "at this single common point, his course of investigation differs so widely from mine, that "appearances will be found corresponding to the reality—that my discovery is independent "of the imperfect one of Mr. Gompertz;" and he then continues:

It is here asserted—1. That Mr. Gompertz discovered that *some connexion* existed, and that this—namely that some connexion existed—is the single *common point*. It shall be shown that *all* the points of Mr. Edmonds' alleged discovery had been pub. by Mr. Gompertz; the only difference being that Mr. Edmonds takes in the period of infancy, to which Mr. Gompertz pays no attention. 2. That the two courses of investigation differ widely. If the published courses of investigation be intended—and no others can present "appearances" to the reader—it shall be shown that they closely agree. 3. That the discovery of Mr. Gompertz is imperfect—meaning, of course, as compared with that claimed by Mr. Edmonds. It shall be shown that there is no difference between the two, except in the introduction of the period of infancy by Mr. Edmonds, according to the method of Mr. Gompertz.

This he proceeds to accomplish by means of passages in parallel cols.; and to the case so put it is indeed difficult to "imagine a sufficient answer"; and then resumes:

In applying the formula, Mr. Gompertz finds it necessary to change the constants at a period depending upon the T. to be verified. Thus taking life at 10 years of age, and not considering infancy, he finds one set of constants to represent the *Carlisle T.* from 10 to 60, another from 60 to 100. Mr. Edmonds finds the same necessity, but he also takes in the period of infancy, and applies the law to the periods from birth to 8 years of age, from 12 to 55, and from 55 to the end of life—acknowledging that the periods vary with the circumstances.

Mr. Gompertz considers, as appears by one of his examples, that the constant *g* is very slowly varying during the period at which it is near enough to uniformity for practical use. Mr. Edmonds seems to assume that during each whole period of its use, the constant *g* is absolutely fixed; but of this he does not give any evidence. For the logarithms of *g*, by the *Carlisle T.*, from 10 to 60, and from 60 to 100, Mr. Gompertz has 0.0126 and 0.0271. In Mr. Edmonds' book, the logarithms of *g*, from 12 to 55, and from 55 to the end of life, are 0.0128 and 0.0333. Mr. Edmonds calls his constants "now first discovered" (p. vi).

I can find nothing in which Mr. Edmonds went beyond Mr. Gompertz. It is now for him to show that he not only went beyond Mr. Gompertz, but so far beyond that all which was due to Mr. Gompertz was comprised in the statement that the whole of what I have quoted gives the *single common point* that [the formula] has *some connexion* with T. of Mort. Should he wander from this point—which is the point—it will be my part to request insertion of a short exposure of irrelevancy. I will conclude by observing that I do not care to inquire whether or no what Mr. Edmonds pub. as above quoted, was done independently of Mr. Gompertz, as asserted. On this point it will be well to suspend opinion until it is seen what Mr. Edmonds can say in justification of the suppressive mention which, I submit, has been fully estab.

This paper is in Prof. De Morgan's best style: a style which perhaps but few writers can ever hope to equal.

Mr. Edmonds contributed to the succeeding number of the *Assu. Mag.* (vol. ix. p. 170) a paper: *On the Discovery of the Law of Human Mort., and on the Antecedent Partial Discoveries of Dr. Price and Mr. Gompertz*, his opening passage being as follows:

In the year 1832 there was pub. in my name an extensive collection of *Life Tables*, founded upon the discovery of the law, which, in my belief, governs the mort. according to age, of all nations and classes of men, from the earliest infancy to extreme old age. In these T. the numbers living or surviving at successive ages have been deduced from a simple formula expressing the proportion of survivors at any age in terms of the mort. They are the first T. of this kind ever pub., and they have been used daily in the practice of life assu., and in the valuation of life contin., for a period of 32 years, including 4 years before pub.

He then proceeds to state the law of human mort. "The whole duration of human life is divided into three well-marked stages, which belong to all animal life, and are—stages of growth, maturity, and decay. The mort. in all three stages increases or decreases, uniformly with the age, in geometrical progression, but in a different progression for each of the three stages. The constant ratios of progression, belonging severally to the three stages, have been ascertained—their values being the same for all populations at the same stages of life." These three stages, designated by him *infancy*, *florescence*, and *senescence*, have already been reviewed fully under title EDMONDS, T. R., "MEAN" MORT. T., and need not be further exemplified here.

Mr. Edmonds proceeds to demonstrate the derivation of "constants of progression" for the three periods of life; and then points out that the first intimation of the nature of the law of human mort. was conveyed by Dr. Price, in an essay read before the Royal So. in 1769, by an obs. upon the mortuary regis. of the parish of *Holy Cross* [MORT. LAW OF]; and then he reaches the direct point of the challenge.

In the discovery of the law of human mort., I was not assisted by any knowledge or recollection of the antecedent partial discoveries of Dr. Price, or any other writer. My discovery is founded on direct obs. of the principal and best-estab. facts or statements of mort. on record. These facts, collected by me and expressed in their simple form, denoted observed ratios of dying to living at successive equal intervals of age. At ages above 10 years, the mort. at successive quinquennial intervals of age was thus ascertained from an extensive variety of T. and obs. These successive quinquennial rates seldom indicated any regularity of increase; but when combined so as to form rates of mort. for successive decennial intervals of age, the uniform rates of progressive increase became manifest, and the two numbers already indicated, as regulating the increase in the periods of florescence and senescence, were discovered. The constant ratio regulating the progressive decrease of the mort. during the period of infancy was found by obs. on the mort. exhibited at this period by a large variety of T. for successive ann. and biennial intervals of age. The constant of the period of infancy was found to be the same in all T. and obs. of mort.; so also the constant of the period of senescence was found to be the same in all obs. The constant of the period of florescence was found, however, occasionally to vary from its average magnitude, when small sections of a pop. were observed; but in large aggregates, consisting of mixed pop., and in small sections, consisting of homogeneous pop., the particular constant already indicated was manifest.

Immediately after the discovery of the law of human mort. I constructed, for practical use, a T. of Mort., in which the numbers living or surviving at successive ann. intervals of age were deduced by successive subtractions of the approximate ann. decrements obtained from the formula. . . . By this T. was exhibited a series of ann. decrements uniformly progressive with age, excepting at very advanced ages, when the uniformity was interrupted, although the defect was of no importance in practice. By reflection on this defect, manifested at advanced ages, I became convinced that uniformity of decrement according to age could not be obtained by means of an ann. decrement of the form . . . , and that such uniformity would only be secured by continually diminishing the intervals of age observed from . . . to . . . , or by calculating the decrement in infinitely small intervals of age by the formula

Until I had arrived at the conclusion that the decrement of the living at any age was of the form . . . the idea had never occurred to me that there existed anything in common between the formula . . . used by Mr. Gompertz to represent the number living, and my formula . . .—with three permanent values of . . . determined, representing the decrement of life for every year of age. I had previously become acquainted with the formula of Mr. Gompertz by conversation with Mr. Gompertz himself; I had also tried the value of his formula by applying it to interpolation of the numbers living, in a T. of Mort. of my own selection, and found the result not to be in conformity with Mr. Gompertz's verbal statement. Not believing his theory, I soon forgot everything relating to it, except that his formula was . . . , and that he used the differential calculus in his investigation, either in descending from the integral to the differential, or in ascending from the differential to the integral. After the true law of human mort. had become known to me, on examination of Mr. Gompertz's theory, I became aware of the cause of my orig. failure to find any truth in his representations. The error was on the side of Mr. Gompertz, who, in his statements to me, made no mention of any limits of age circumscribing the application of his formula. In all probability, at my first examination of his formula, I chose for interpolation two numbers representing the survivors of two ages, on different sides of one of the limits. The result of the comparison would, in this case, evidently be contradictory to Mr. Gompertz's theory.

The statement of his theory made to me does not differ materially from the general statement given by Mr. Gompertz in his paper read at the Royal So. in June, 1825: for he there states it to be a mathematical consequence of his formula being found to be true by obs. "That the average exhaustions of man's power to avoid death are such that, at the end of equally infinitely small intervals

"of time, he loses equal portions (or proportions) of his power to oppose destruction." As no limits of age are here mentioned, it might fairly be inferred from the above statement that the vital force of man, measured by the ratio of the living to the dying, is in a constant state of decay from birth to the end of life, at one and the same uniform rate. Mr. Gompertz nowhere makes mention of the fact that the vital force increases at a high rate during the period of infancy; nor does he note the existence of any difference between the rate of the ann. loss of vital force during the period of florescence, and the great rate of the ann. loss of vital force during the period of senescence. All the examples in detail which he adduces in support of his theory are confined to specimens taken from different T. of numbers surviving at various ages, between 15 and 55 years, or comprehended in one stage of life only—that of florescence. With respect to ages above 55 years, Mr. Gompertz states the result of his examination of one T. of Mort. only, without entering into detail as in the other cases.

He next enters upon the following comparison :

My knowledge of the law of human mort. is founded on direct obs. of the ratios of the dying to the living, at successive intervals of age, in various populations. Mr. Gompertz's knowledge of the law has been obtained indirectly, being founded on compilations made by others, of ratios of dying to living. The law of mort. in the last century of the pop. of *Sweden* and of *Carlisle* are contained in the observed ratios of dying to living at various ages, collected and pub. by Wargentin and Heysham. Mr. Gompertz, in deducing the laws of mort. of these pop., relies upon T. of survivors, according to age, constructed by Price and Milne, who acted as compilers of the ratios of mort. supplied by Wargentin and Heysham. He accepts obs. at second hand for his guide, when the orig. ratios of mort. observed were easily accessible. Mr. Gompertz has done nothing without the aid of T. of survivors at successive ages previously constructed by others. Nearly all that he offers to show is, how *interpolations* may be made for intermediate ages, when the number of survivors at the beginning, and the number of survivors at the end, of a large interval of age are given. Mr. Gompertz never shows how a new T. of Mort. may be constructed independently of other previously existing T.

He then enters upon a critical analysis of the contents of Mr. Gompertz's paper of 1825, and proceeds thus : "The reader might fairly infer that the author could not have much faith in the virtues of his transcendental [formula], when, in the inculcation of its truth and applicability, he had bestowed only one-fifth of the space and attention which he had bestowed on the simple and common geometrical series represented by [the more simple formula]. If the two chapters are viewed together, the reader can hardly avoid coming to the conclusion that the patient labour expended on the production of chap. ii. was the source of the discovery exhibited in chap. i., and that the ideas connected with the discovery have been presented to the public in an order which is the reverse of the order in which they occurred to the mind of Mr. Gompertz." This he endeavours to demonstrate by an analytical examination of parts of the paper, concluding as follows :

Thus Mr. Gompertz will have descended from his integral to my differential—there being no reason to suppose that he had ascended, from a differential like mine, to his integral. The former course is simple and obvious; but the latter course, though apparently simple, would not be obvious to a person dealing for the first time with quantities of a new and unknown character. It is often erroneously supposed that Mr. Gompertz has deduced his formula from the hypothesis of equal proportions of vital force being lost in equal intervals of age; but the reverse is the fact—the hypothesis having been arrived at as the mathematical or necessary consequence of the truth of the formula; for Mr. Gompertz states that "the hypothesis was derived from an analysis of the experience alluded to"—the experience alluded to consisting in [formula] being found to yield correct interpolated numbers for the survivors, according to age in many T. of Mort.

The formula . . . is a general formula, alike applicable to the expression of the true law of human mort., and to the imperfect law announced by Mr. Gompertz. The true law differs from the imperfect law only in respect of the value of (β) being determined in the former case, and being left undetermined in the latter case. According to the true law of human mort. (β) has a fixed determined value for each of the three periods or stages into which human life is divided—growth, maturity, and decay—for the same and for different pop. According to the imperfect law of mort. deduced by Mr. Gompertz, no limit is assigned to the variation of (β), whether in the same or different pop., at any period of life. The original idea entertained by Mr. Gompertz apparently was, that by means of the formula . . . interpolations of survivors between any pair of ages, not very remote from one another, may be effected by assuming different values of (β). It is only by reference to examples of interpolation cited by Mr. Gompertz that the reader learns indirectly, that in the second period of life, or from the age 15 to 55 years, Mr. Gompertz regards (β) as constant in the same pop. at the same time, though variable for different pop., and for the same pop. at different times. Mr. Gompertz says nothing of the value of (β) at any age under 15 years, and gives the value of (β) in one case only for the period of life above 55 years of age. In examples of the application of his formula to different pop., Mr. Gompertz always treats (β) as a fugitive quantity, and as of no value except for the particular interpolation then required to be made.

He contends that the view he here takes is supported by that of Galloway in 1841, in his work already quoted in this art. "He evidently regarded (β) as a fugitive quantity, of no value except for the use to which it had been applied in smoothing the irregularities which would otherwise have appeared in the T. which he was then constructing. Both Mr. Gompertz and Mr. Galloway have treated (β) as an insignificant quantity, of accidental value, and of no use but to maintain the formula . . . The truth is, however, that (β) with its then determinate values is independent of all formulae, has existed as long as man has existed, and forms part of the foundations of the universe." (p. 177.)

Returning to the main consideration now before us, he says that all his pub. T. have been deduced from the formula he here sets forth, and adds :

In arriving at this formula, I am not conscious of having received any assistance from the writings of Mr. Gompertz beyond the suggestion of the idea that the form which I had discovered for the decrement of human life at every age was one capable of integration by simple and well-known methods. I do not believe that this assistance was of any importance, except with regard to time, for I possessed all the materials for forming the series proposed for summation, and could hardly have failed to discover the law of that series as soon as my attention had been directed to, and concentrated on, the subject. The law of the series may be found as well without as with the aid of the differential calculus. My formula, as above given, is reduced to more simple terms than that given by Mr.

Gompertz. The correctness of my formula, or of the process by which it has been obtained, has never been questioned. There is, however, ground for doubting the correctness of the process by which Mr. Gompertz has deduced his formula. To remove this doubt, the publication of his process in a more explicit form is requisite.

He then enters upon an elaborate demonstration of the correctness of his mathematical reasoning as contrasted with that of Mr. Gompertz. He charges "Mr. De Morgan, in his office of self-constituted judge between Mr. Gompertz and me," of overlooking an important error, "although he corrects other errors of inferior importance"; and finishes up a very long article by another algebraical investigation in proof thereof.

In the succeeding number of the *Assu. Mag.* (vol. ix. p. 214) Prof. De Morgan makes a brief, but exceedingly caustic reply, from which the following passages will suffice for our purpose here :

I have a suspicion that Mr. Edmonds intends the 15 pages on the "Law of Human Mort." which appear in the last number of this journal to stand in place of an answer to any remarks *On an Unfair Suppression*, etc. . . . for though no allusion is made to the charge, still less statement of it, or answer to the evidence produced, there is one mention of me which looks so like a distortion of my paper, that I think the suspicion is justified [that relating to an important error overlooked]. . . .

It will be asked in turning over page after page, "What has all this talk about the better and worse of this and that method to do with the year 1832, and the question whether the account then given by Mr. Edmonds was, or was not, an unfair suppression of what had been done by Mr. Gompertz?" What did Mr. Gompertz then bring forward? What had Mr. Gompertz brought forward? What is there in what Mr. Edmonds then brought forward which will redeem his description of Mr. Gompertz's method from the imputation of unfair suppression? If Mr. Edmonds had given all the description he has now given, weak as it is, there would have been foolish and unfounded self-assertion, but at least there would not have been suppression. With the contents of Mr. Edmonds' paper I have nothing to do; and this because no account he may now give, be it true or be it false, can affect the question whether what he then gave was or was not unfair suppression. This want of allusion to my accusation relieves me from all necessity of further rejoinder. . . .

The Editor of the *Assu. Mag.* adds, a note (vol. ix. p. 215) :

We have considered this question with a good deal of care, and we cannot but think that there is great truth and justness in the remarks which Prof. De Morgan has thought fit to make upon it. When Mr. Edmonds admits "that the honour belongs to Mr. Gompertz of first discovering that some connexion existed between T. of Mort. and the algebraic expression . . ." it seems to us that there is an end of the matter. What else of any moment in connexion with it has been discovered? The giving another form to an expression, or another phase to an hypothesis already suggested, cannot be looked upon as a discovery. Mr. Edmonds has applied or made use of Mr. Gompertz's suggestion or "discovery," with great ingenuity, neatness and effect. We do not see how it can be said with truth that he has done more than this. Of the less commendable features of his work we say nothing.

In 1861 Mr. T. B. Sprague, M.A., read before the Inst. of Actuaries a paper, which was afterwards pub. in the form of a letter : *On Mr. Gompertz's Law of Human Mort., and Mr. Edmonds' Claims to its Independent Discovery and Extension* (vol. ix. p. 288), wherein occur the following passages :

. . . It must be clear to all who have read Prof. De Morgan's remarks and Mr. Edmonds' rejoinder, that the charge brought by the former against the latter has been completely substantiated; viz. that Mr. Edmonds, following in the footsteps of Mr. Gompertz, and familiar with his writings, "has adopted his ideas without anything approaching to a sufficient acknowledgment." On this point nothing further remains to be said. But Mr. Edmonds, in the course of his defence, as it may be termed, has introduced many other matters, which seem to me to call for further notice, although dismissed by Prof. De Morgan as having no bearing on the question raised by him.

Mr. Edmonds then has made a minute comparison of his processes and results with those of Mr. Gompertz; and has made many reflections to the disparagement of the latter, . . . which, if allowed to remain unanswered, may have more weight than they deserve with some of your readers; and leave them to undervalue the labours of Mr. Gompertz. Having been led by Prof. De Morgan's remarks to make, for my own satisfaction, a somewhat close comparison of the writings of Mr. Gompertz and Mr. Edmonds, I am induced by the above consideration to lay before your readers the conclusions at which I have arrived.

In the first place I notice that curiously enough Prof. De Morgan, who appears as the voluntary champion of Mr. Gompertz, does not do him full justice. Mr. Gompertz's paper in the *Trans. of the Royal So.* is full of misprints—many of them being of the most serious character. Two such are corrected by Prof. De Morgan in the extract he has made . . . ; but he has left several uncorrected, which give rise to the "obscurity" to which Mr. Edmonds refers. . . . In order to demonstrate this, and with the secondary object of making Mr. Gompertz's important theorem more generally known, I subjoin its demonstration. It will be seen that, besides correcting these misprints, I have expanded the reasoning in some of the steps, and have in several instances substituted, for the notation of Mr. Gompertz, that more generally used at the present time. . . .

These corrections being made, all "obscurity and ambiguity" disappear from Mr. Gompertz's process. Nor does that process contain, as Mr. Edmonds asserts, "two superfluous and useless indeterminate constants." . . .

He then follows Mr. Edmonds critically through his "reply"—for so it had come to be regarded. He deems it (p. 294) "impossible to admit, on the evidence adduced hitherto, that Mr. Edmonds has extended the theory of Mr. Gompertz." It now remained to examine his claims "to an independent discovery of what is common to them"; and on this part of the case his judgment is the following :

. . . Mr. Edmonds very nearly discovered what had been previously discovered by Mr. Gompertz or in his own phrase, if he had only had a little more time, he would certainly have discovered it. It is of no avail to make conjectures . . . as to the course by which Mr. Gompertz arrived at his formula. The *fact* remains that he did arrive at and pub. it, and that Mr. Edmonds first became acquainted with it through Mr. Gompertz's writings. . . .

He desires to allow Mr. Edmonds "all the credit justly due to him," which was the following : "I believe that in accomplishing the object he had in view—viz. that of

forming a new hypothetical T. of Mort.—he has shown considerable judgment and skill ; and I shall willingly admit the universality of his constants, whenever I see sufficient proofs of their accuracy produced." Finally :

My task would have been much lighter if Mr. Edmonds had confined himself to an explanation of his own theory : for then I should not have thought it necessary to dwell upon the numerous errors into which he has fallen. This course has been rendered necessary by his uncalled-for criticisms of Mr. Gompertz.

The controversy, which we have reviewed so fully, did not terminate here. In the same number of the *Assu. Mag.* (vol. ix. p. 296), there appears a letter from Mr. Gompertz, communicated through Mr. H. W. Porter, B.A. It could not have been left in better hands—for Mr. Porter, himself a scholar, would be certain to be appreciative of the claims of others. He (Mr. Gompertz) considers the question now "definitively set at rest, by the complete analysis of the whole question by Mr. Sprague." And he adds :

... But I am not concerned in that claim : because whether he [Mr. Edmonds] did or did not make a discovery of a theorem, seven years after it had been honoured by the approbation of scientific men, after my pub. of it, cannot be injury to me. Still, I think it was not wise of him to try to use arguments to estab. his claim, which would, I think, by their close resemblance to my own words, rather prove the reverse. I have no wish to rob him of any claim, which he, or his friends for him, may consider his due ; but on the contrary I wish well to every one who may, virtuously and without jealousy, feel inclined to tread in a new path, to promote the objects of science ; or who, with a view to add information to knowledge acquired, should modestly follow the steps of an early labourer.

In the still succeeding number of the *Assu. Mag.* (vol. ix. p. 327) there is a rejoinder from Mr. Edmonds, extending over 14 pages : *On the Law of Human Mort. ; and on Mr. Gompertz's New Exposition of his Law of Mort.*—for Mr. Gompertz had in the interval pub. his paper submitted to the International Statistical Congress in 1860, of which we have given a full outline in the first portion of the present art. One or two passages alone (of this rejoinder) we shall reproduce :

In the last number of the *Assu. Mag.* (April, 1861) there appears a letter from Mr. Gompertz, in which reference is made to his and my claims to the discovery of the law, or part of the law, of human mort. In this letter Mr. Gompertz declares that my claim cannot interfere with his claim, because I had acknowledged the priority of his discovery. I admit the truth of this declaration, and can add thereto that I also am able to declare, with equal truth, that his claim, as now described by himself, cannot interfere with any claim hitherto advanced by me. The law of human mort. now claimed to be discovered by Mr. Gompertz differs materially from the law which I have declared to exist. The two laws are in accordance with one another only to a partial degree. It is in this partial agreement, at this particular period of life, that the priority of Mr. Gompertz's discovery consists. The description of the law of mort. as now believed by Mr. Gompertz to exist is contained in a paper referred to in the letter above mentioned, and since pub. (p. 454) in the appendix to the *Rep. of the Proceedings of the Fourth International Statistical Congress, held in London in the Year 1860.*

In supplying evidence of the truth of his law of mort., Mr. Gompertz invariably omits to compare the resulting mort., as deduced from his theoretical T., with the observed mort., according to age, which is or ought to be the foundation of such T. In my own case I have always supplied evidence of this complete and most simple kind. Nevertheless Mr. Gompertz and his two officious, but accepted, advocates, concur in saying that I have not given evidence of the truth of my theory of mort., or of the existence of any law of mort. beyond that discovered by Mr. Gompertz, as applicable "to a long period of man's life," to which no limits are assigned. This concurrence of views between Mr. Gompertz and his two advocates is the more remarkable, because it is the only instance of such concurrence to be found in the recently pub. papers of the three parties. His advocates advance claims on his behalf, which Mr. Gompertz has never advanced himself. The statements of the advocates are not supported by any corresponding statements of their principal. The only support which Mr. Gompertz gives his two advocates is to praise them for the talent they have displayed in the advocacy of a claim rightfully or wrongfully put forward for his benefit. Mr. Gompertz appears to consider himself free from any responsibility in lending his approbation to papers containing statements which, from his superior knowledge of the facts, he could not, with any regard to truth, have uttered himself. Except in the present instance, Mr. Gompertz has written nothing against my claim, or in support of the claim made on his behalf, which I am at all interested in contradicting. But with respect to his two advocates, I deny that either of them has said anything in depreciation of my claim, which is true in substance or even in form.

With this paper we had hoped the controversy was closed ; but it did not turn out to be so. In Oct. of the same year there was pub. a parting shot by Prof. De Morgan on some incident of Mr. Edmonds' "college life" (vol. x. p. 29), not material to the issue ; and in the following number the conflict was renewed.

In the same number of the *Assu. Mag.* (vol. ix. p. 361) there is a letter from Mr. Makeham : *On the Calculation of Premis. for Assu. on Lives and Survivorships by the Aid of Mr. Gompertz's Hypothesis*, wherein, referring to his paper, already briefly noticed under date 1860, he says :

... I ventured to suggest a method which, by means of a slight modification of Mr. Gompertz's formula, appeared to me to possess some utility in facilitating the computation of the values of annu. on several lives. The alteration in question consisted simply in introducing into the formula for the prob. of living, an add. constant, in such a way that it should combine with the constant representing the int. of money in the corresponding formula for the values of the sums depending on those prob. ; and by this means preserve an important property of Mr. Gompertz's formula, first observed by Prof. De Morgan, viz. the power of substituting an equivalent single age, easily determined, for any combination of joint ages ; with this difference, however, that by the intro. of the add. constant referred to, the substitution consists of an equal number of lives, for a certain common age, in lieu of a single life.

He now gave some T. (based upon the *Carlisle T.*) constructed on the principle contained in that former paper. [MAKEHAM'S FORMULA.]

In the October number of the *Assu. Mag.*—still in 1861—there appeared a long letter, again really a paper, from Mr. Sprague: *On the Recent Imputations made as to Mr. Gompertz's Accuracy* (vol. x. p. 32). Here it is seen that the point at issue has been changed. The questions now in controversy are stated with much force, and argued with overpowering pungency.

The year 1862 brings a reply from Mr. Edmonds' on the points of the new issue, in the shape of a paper: *On the Value of Mr. Gompertz's Formula for the Number Living, in Terms of the Mort. according to Age, compared with the Value of a similar Formula pub. in 1832* (*Assu. Mag.* vol. x. p. 104). One passage will suffice to show the main scope of the paper:

In the *Assu. Mag.* (April, 1861, and Oct. 1861) there have also appeared two papers, in opposition to mine, which have been written by Mr. Sprague. . . . In the latter paper of Mr. Sprague the opposition has been confined chiefly to the question of the relative value of Mr. Gompertz's formula and my formula of mort. As this question appears to me to be the only one which can, with any apparent good reason, become the subject of dispute between Mr. Gompertz and myself, I will follow Mr. Sprague's example, and confine my coming remarks chiefly to the comparative merits of the two competing formulae.

The conclusion to which ten pages of controversial reasoning and disputation arrive are the following:

Until the present time I have not made any claim which affects Mr. Gompertz's title to the credit of discovering the formula which has been supposed to exhibit "*for a long period of man's life*," the true and exact relation between the mort. and the numbers living at different ages. Now, however, after having proved the existence of two serious defects in his formula, I am about to make a claim which will affect the value of Mr. Gompertz's claim. The claim which I am about to make is founded on the belief which I entertain that the formula of Mr. Gompertz ceased to be of any value to the public in the year 1832, the date of pub. of my formula.

Now, in 1862, I lay claim to the credit of being the first discoverer of the only existing formula which exhibits the true and exact relation between the mort. and the numbers living according to age, in either of the three periods of human life. I have produced abundant evidence of the fact that the formula of Mr. Gompertz contains two constants which were left "indeterminate" by Mr. Gompertz, but have been "determined" by me. This evidence has been placed before an accepted advocate and representative of Mr. Gompertz.

The truth of my allegations respecting the two constants has not been denied, and the representative of Mr. Gompertz has shown himself unable to prove that either of these constants had ever been "determined" by Mr. Gompertz.

Before the year (1862) had closed a new combatant had entered the lists. At the Dec. meeting of the Inst. of Actuaries, Mr. W. S. B. Woolhouse read a paper: *Observations on Gompertz's Law of Mort. and the Dependence between it and Simpson's Rule for Finding the Value of an Annuity on Three Lives* (*Assu. Mag.* vol. x. p. 121). It will be more convenient to review it at this date. It is seen that the paper bears reference to the point which had been raised by Prof. De Morgan in the *Phil. Mag.* as far back as 1839—but only reprinted in the current vol. of the *Assu. Mag.* (x. p. 27). The author commences his paper as follows:

In the correspondence that has recently taken place respecting the origin of Gompertz's formula expressive of the law of mort., it has been stated, much to my surprise, that the investigation first given by that gentleman in the *Phil. Trans.* . . . for the year 1825 was defective and inaccurate. I do not here propose to re-open the controversy on the subject of the originality of discovery, or to enter upon a renewed discussion of certain other allegations that have been so efficiently disposed of by Prof. De Morgan and Mr. Sprague; but after the statement to which I have more particularly alluded, it is only right that I should avail myself of the present opportunity to communicate the circumstance that Mr. Gompertz kindly presented me with a copy of his valuable memoir in Jan. 1839, in which the various misprints had, in the most legible manner, been previously corrected by himself, and that the processes so corrected are perfectly accurate in every respect. In order that any one may be enabled to judge of this for himself, I shall here give a faithful transcription of that portion of the Memoir which contains the mathematical investigation of the formula, as it will occupy but little space. . . .

Here there is not the slightest inaccuracy, and the investigation and resulting formula are as complete as could be desired. But in stating thus much I should, at the same time, carefully bear in mind, that, to many members of the Inst., such confirmatory evidence will not be needed; as it would be preposterous to suppose that Mr. Gompertz, one of the greatest mathematicians of Europe, could in reality bungle in working out the integration of the most elementary form of exponential. The correctness of the final result is indeed a sufficient indication that the intermediate operations which presented no difficulty had, by so experienced a hand, been accurately performed.

Mr. Gompertz, who possesses the conscientiousness of a great mind, did not announce his formula as an absolute discovery of the true law of mort.; but by the computation of various examples from recognized T_x , he clearly estab. for it the important merit of representing, with a remarkable degree of accuracy, the tabular mort. throughout long periods of years; and for the attainment of this desirable object, it is not likely to be superseded by any other theory equally free from complication.

He then enters upon a mathematical demonstration, after which the following:

Mr. Edmonds, adopting Mr. Gompertz's formula as a basis of construction, has, with considerable skill and labour, succeeded in accommodating it to the usual T_x of Mort. by dividing human life into three periods—viz. infancy, manhood, and old age, over each of which he calculates separately from distinct data. His curve, which is partly theoretical and partly empirical, has therefore, as it were, two intermediate stations, from which it proceeds on new branches, depending on new constants. This abruptness of transition is certainly objectionable; but, although the marked discontinuity at these points does no little violence to abstract notions of mathematical accuracy and consistency, it must be conceded that the results are sufficiently near to the truth for ordinary bus. purposes.

He concludes his obs. on this part of his paper by an example in full of the calculation of the curve presented by Gompertz's formula when it is made to pass through 3 given points; "and it will be seen that this can readily be accomplished without the labour of

computing the values of the constants that enter into the equation of the curve. The best method of interpolating *T.* of Mort. by means of Gompertz's formula will also be thus indicated." Of this he furnishes mathematical proof.

He, in the second part of his paper, addresses himself to Prof. De Morgan's paper from *Phil. Mag.* [reprinted in *Assu. Mag.* vol. x. p. 27], "wherein he deduces Simpson's rule from Gompertz's law of mort.":—

This paper is very interesting, and the perusal of it has led me to a more extended examination of the subject, which I do not hesitate to lay before the members of the Inst., as the result presents itself in a manner so marked and decided. Prof. De Morgan has, with his usual ability and elegance, proved the accuracy of Simpson's rule on the assumption of Gompertz's law. He has furthermore stated that the same conclusion might be arrived at from a yet more generally expressed law, of which that of Gompertz would appear to be only a particular case. In the following discussion of this point, I propose to show that the seeming generality of this last assumption, although apparently a very feasible superstructure, has in reality no foundation whatever; and that the truth of Simpson's rule, which is a necessary consequence of Gompertz's law, cannot exist on any other hypothesis. . . .

This important practical conclusion he proceeds to demonstrate mathematically, concluding, "And thus we find the law of mort. to be of precisely the form of Gompertz." And then the following more general obs.:

I have only further to remark, that as the proposed equivalence subsists with respect to each of the several terms of the series representing the annu., it will obviously hold good whether the annuity be for a term of years or otherwise. This consideration is by no means unimportant; for it has been shown that Gompertz's formula is capable of exhibiting the true law of mort. with sufficient accuracy for long periods, and the exact determination of the value of an annu. on 3 or more lives for a term of years involves a considerable amount of calculation. It may therefore be sometimes desirable to know under what circumstances the convenient rule of substitution can be judiciously applied, and the degree of accuracy that may be expected from it.

This same vol. of the *Assu. Mag.* also brings into the controversy another able Actuary—Herr Wilhelm Lazarus, of Hamburg. His communication, *The Law of Human Mort.*, had indeed been standing over since the previous year; but it is now printed (vol. x. p. 283). He says:

The importance of the discovery of the law of known mort. is too obvious to require any further explanation, and it is highly gratifying to observe that the labours which have been brought to bear upon the discovery of these laws, and which for a time seemed to have ceased, have been lately renewed. The reader of the *Assu. Mag.* must feel indebted to this periodical for the pub. of any essay referring to this question—for even a fruitless endeavour in this direction may be the means of leading another inquirer into the right path; and from this point of view the contest which has sprung up between Mr. Gompertz and Mr. Edmonds, although not pleasing in itself, may prove of advantage to the question in point.

This was a most sensible view of the question, and prob. the true one. His other obs. bear more directly upon the elucidation of the law of mort., and as such will be reviewed under *MORT., LAW OF.*

In 1863 Mr. Peter Gray addressed to the *Assu. Mag.* (vol. xi. p. 236) a letter: *On Mr. Makeham's Modification of Mr. Gompertz's Theory of the Law of Mort.*, in the following para. of which he generalizes the exact position to which Mr. Gompertz's hypothesis has been reduced, as follows:

The nature of Mr. Gompertz's theory is by this time pretty well known to your readers. He sets out with a postulate, having in its favour certainly a high degree of prob.—viz. that the power to oppose destruction in the human frame loses equal proportions in equal times; and he shows that, as a consequence, the logarithmic prob. of living a year, at successive ages, will form a series in geometrical progression. In seeking to apply this property to represent the results of actual observations, however, difficulties present themselves—the presence of a disturbing element makes itself felt. It is found necessary to employ not merely one, but two, perhaps three, continuous series, in order to obtain a tolerable approximation to the results to be represented. And there still remains divergence enough to induce a suspicion that quantities in the series, treated as constant, ought in reality to have been considered as subject to slow variation.

He then proceeds to enlarge upon the effect of Mr. Makeham's proposed modification, and to expound its advantages. [*MAKEHAM'S FORMULA.*]

In 1865 Mr. Makeham read a paper at the Inst. of Actuaries: *On the Principles to be Observed in the Construction of Mort T.*, which is printed in the *Assu. Mag.* (vol. xii. p. 305), and wherein occurs the passage following:

The methods of adjustment proposed by Messrs. Jellicoe and Gray (whose valuable papers on this subject have appeared in the *Assu. Mag.*) are founded upon the formula devised by Mr. Gompertz; and there can be no question that those gentlemen have satisfactorily shown that the formula in question is admirably adapted for the purpose. We occasionally hear objections expressed to the use of a mathematical formula, as an instrument of adjustment; but admitting the necessity of some process of the kind, it is difficult to see why it should not be effected by such means, provided of course that the result is satisfactory. Indeed, to most persons the highly philosophical principle from which Mr. Gompertz's formula is derived, is, I think, sufficient to give a decided preference over every other method.

This part of the subject will be again considered under *MORT. T., CONSTRUCTION AND ADJUSTMENT OF.*

In 1866 Mr. Marcus N. Adler contributed to the *Assu. Mag.* (vol. xiii. p. 1) the memoir of Mr. Gompertz, which we have already frequently quoted. He says regarding the Hypothesis:

Now some people think Gompertz's law untenable, because the mort. of man, or at all events of certain classes, does not increase by a steady progression, but exhibits certain climacteric departures at certain periods of life. [*CLIMACTERIC.*] That such is the case cannot be doubted.

Similar climacteric departures are exhibited even at infancy. The mort. at birth is much greater than at a few years later, which again increases before the period of puberty.

Now we have just seen [Supplementary paper, 1861] how Gompertz's *extended law* applies to those cases; and the author ventures to assert that by applying Gompertz's peculiar process of differencing at certain stages of life, *the law will be found to adapt itself to the exceptional mort. at those ages.*

In the Supplement under consideration methods are also pointed out by which the most intricate questions of life contingencies, involving any number of lives, may be solved without difficulty.

An instructive consideration of questions of special risk, and what he terms "special influenced contingencies," which have an important bearing upon survivorships, is also given. In conclusion, *he shows how his theoretical law of mort. not only applies to infancy, but holds also for sickness.* He finds that the values obtained from his "Vital Rule of Three" compare most satisfactorily with the T. deduced by Messrs. Ansell and Neison, from the Experience of Friendly Societies.

In 1867 Mr. Makeham read before the Inst. of Act. a paper: *On the Law of Mort.*, which is printed in *Assu. Mag.* (vol. xiii. p. 325), and wherein he elaborates his paper of 1860. In it occur one or two passages requiring to be noted here:

From one or two quarters indeed Mr. Gompertz's hypothesis had met with an opposition which I can account for only by supposing the existence of a vague suspicion that the hypothesis in question is nothing more than a mere abstract theory, not derived from experiment: but in support of which, on the contrary, it is necessary to do violence to the facts supplied from actual obs. How much opposed such a suspicion is to the truth, the following extracts from Mr. Gompertz's writings will testify.

We have already given all these, and others, in our review of the paper of 1825. Mr. Makeham proceeds:

These extracts prove conclusively that this eminent man followed no such erroneous method as that supposed; but that, on the contrary, he confined himself strictly to the *interpretation* of the facts supplied by experiment. His method is in perfect accordance with the precepts of our great English philosopher, Bacon, of whose highly figurative and graphic style we are reminded by Mr. Gompertz's writings—a feature which renders their perusal quite refreshing in this oppressively logical age.

In 1870 Mr. Woolhouse read a paper before the Inst. of Act. entitled: *Explanation of a New Method for Adjusting Mort. T.; with some Obs. upon Mr. Makeham's Modification of Mr. Gompertz's Theory*; and the same is printed in *Assu. Mag.* (vol. xv. p. 389), wherein the writer reviews the theory of Mr. Gompertz as propounded in 1825, remarking that his constants rendered it capable of representing with tolerable accuracy "the results of obs. for a series of consecutive ages, with a range of at least 30 years." This last-mentioned limitation, however, imposed the necessity of introducing new sets of constants at certain periods of life, in order to complete the T. of Mort., and this alone has been a bar to the general adoption of the formula as a general basis of investigation." But he afterwards says (p. 408):

The subject of these remarks would be incomplete were I not to notice that Gompertz, in his supplementary memoir given in the *Phil. Trans.* for 1862, extends his researches on the science connected with human mort. By intro. three additional terms, his function is made practically complete as a representation of the law of mort. from birth to the limit of life; but it thereby loses its simplicity and elegance, and, in a corresponding degree, becomes cumbersome and unmanageable as an instrument of investigation.

During the same year Prof. Oppermann, of Copenhagen, read before the Inst. of Act. a paper: *On the Graduation of Life T., with Special Application to the Rate of Mort. in Infancy and Childhood*—reported in *Ins. Record* of this year, p. 42, wherein reference is made to Gompertz's theory.

In 1871 there was communicated to the *Assu. Mag.* (vol. xvi. p. 313) a paper by Dr. T. N. Thiele, of Copenhagen: *On a Mathematical Formula to Express the Rate of Mort. throughout the Whole of Life, Tested by a Series of Obs. made use of by the Danish Life Ins. Co. of 1871.* Translated from the Danish by Mr. Sprague. There is no reference to Mr. Gompertz's formula in this paper; but a note to it, at the instance of Mr. Makeham, led to the printing in the *Assu. Mag.* of Mr. Gompertz's paper of 1860.

In the same vol. of the *Assu. Mag.* is a paper by Mr. Makeham: *Explanation and Example of a Method of Constructing Mort. T. with Imperfect Data; and of the Extension of Mr. Gompertz's Theory to the entire Period of Life.* There is nothing in this paper requiring special notice here. The contents will fall to be reviewed under MAKEHAM'S FORMULA.

In 1873 there was contributed to the *Assu. Mag.* (vol. xvii. p. 305) by Mr. Makeham a paper: *On the Integral of Gompertz's Function for Expressing the Values of Sums Depending upon the Contingency of Life*, wherein occur the following passages:

The interest excited by the pub. of Gompertz's celebrated hypothesis, and the attention which has in consequence been bestowed upon it, have already resulted in the discovery of some curious and important properties of the function in question; and, as Mr. Woolhouse has pointed out, it is not improbable the disclosure of others may reward the industry of those who choose to cultivate the field. The principal of those already discovered—viz. the property of uniform seniority—we owe to De Morgan. By the aid of this important property the number of T. required in the compilation of life contin. became (as I have shown on a former occasion) materially reduced. For each Mort. T., and each rate of int., a complete set, from a single life up to any required number of joint lives, could be comprised in a comparatively moderate space—while under the old system the task would be attended with insuperable difficulties.

This important point will be fully elucidated under WOOLHOUSE'S FORMULA.

In 1877 there appeared in the *Assu. Mag.* (vol. xx. p. 340), under "Actuarial Notes," a communication from Mr. James Sorley: *Results of an Unsuccessful Attempt to Graduate*

a *Mort. T.* by *Makeham's Method*; wherein it is stated "that after a very successful graduation by Mr. Woolhouse's new method, a final attempt to use Gompertz's method was made, by determining a set of constants from the adjusted numbers living at 30, 50, 70, and 90, and from them constructing a curve. This curve, however, also failed. . . ."

In 1879 there appeared in the *Assu. Mag.* (vol. xxii. p. 24) a paper by Prof. C. F. McCay: *On the Adjustment of Mort. T. with Reference to the Weight of the Observations*; wherein we have for the first time an American view of the value of Mr. Gompertz's labours:

To this distinguished actuary is certainly to be attributed the announcement in the *Phil. Trans.* for 1825 that the decrements of human life correspond to the effects of two specified and definite forces, from which this law is a simple and immediate consequence. Not only did he announce that these decrements were due to these forces, but he distinctly developed and proved the separate effects of each. The first, irresistible in its nature, produced equal destruction at all ages. The deaths it caused were in exact proportion to the numbers exposed. It was like a stroke of lightning, or a fatal poison, or the ossification of the heart, or asphyxia—equally destructive to the young and the old, the vigorous and the weak. The other was resistible, and therefore not at once fatal, but like a battering ram striking the walls of a fortress, first weakening and then destroying. The force acting incessantly, and including all the external and internal ills to which the body is exposed, except the irresistible causes which were alike fatal to all, was constant in its energy, but produced greater effects as the vital force decreased with age and feebleness. Mr. Gompertz showed that the effects produced by this force would be represented by the formula . . . , and therefore the joint effects of both would be . . . He then proved that this latter force, as it acted incessantly, led to the formula This result was then compared with the best *T.* of *Mort.*, and it was found to conform to them through a large period of life. In fact he had first discovered in the *F.* this law of the increments of *mort.*, and then imposed on the facts the forces that would produce them. The steps of his investigation seem to have been—first, the discovery of the law of geometrical progression in the rates of *mort.* in the several *T.* then known and esteemed; second, the inference that this result was the effect of a constant force like gravity; and third, the suggestion that the other force, which was necessary to be added to the first to explain the phenomena, produced equal effects at all ages, in exact proportion to the numbers exposed.

He proceeds to note that Mr. Gompertz did not combine the two forces, and announce the formula for the numbers of the living at all ages, as he did for the effects of the first force; although "this is very easily done for both in precisely the same way as he did it for the one"—which is here shown. The influence of the former force, in the formula of the living, was not used by Gompertz, "because his object was to prove the existence of the second force; and he wished a formula by which he could test its effects." The other force he merely announced, but did not compare its effects with the *T.* One of the illustrations which he gave of the second force [that of the receiver of an air-pump] might be used to illustrate both; and is so used in this present paper.

He, further, refers to the fact that Mr. Woolhouse had shown that Gompertz's hypothesis only gave approximate results for *Experience T.* (No. 2), not merely in the total obs., but in the separate years of ins. Other points in this valuable paper will be noticed under *MORT.*, *LAW OF*.

Same year Mr. J. J. McLauchlan contributed to the "Trans. of the Actuarial So. of Edinburgh" (N.S. vol. i. p. 31) a paper: *On Joint Life Annuities*: wherein he gives, in a condensed form, the formula employed by most of the writers named in this art., and some others. It is difficult to imagine a more interesting or useful paper than this for the actuarial student.

In 1880 there was read before the Inst. of Act. by Messrs. George King and George F. Hardy a paper: *Notes on the Practical Application of Mr. Makeham's Formula to the Graduation of Mort. T.* This paper has not yet been pub. in the *Assu. Mag.*; but an outline of it may be found in the *Ins. Record* (1880, p. 34). In this paper will be found the latest references to some of the methods reviewed in this present art. It will fall to be noticed in more detail under *MAKEHAM'S FORMULA*.

Note.—In the preceding sketch we have anticipated much that had been intended to be reserved for our art. *MORT.*, *LAW OF*; but it was found convenient, in view of facility of reference, to deal with this section of the subject under its present title.

GOMPERTZ'S TABLE OF MORT.—See *EQUITABLE SO.*, *MORT. EXPERIENCE OF*.

GONORRHÆA (from the Greek).—*Clap.* [*CONTAGIOUS DISEASES.*] [*SYPHILIS.*]

GOOD, ALFRED.—Public Accountant and Liquidator of various Ins. Asso. He was trained to the bus. of banking. In 1854 he became Superintendent of Agencies for the *Scottish Widows*. In 1861 he occupied a similar position with the *North British*. In 1866 he again resumed banking and monetary pursuits; and finally assumed his present occupation, for which his previous training renders him peculiarly fitted.

GOOD OR BAD NEWS.—In times of early maritime warfare, when captures were rife, and the "news" of a very uncertain and contradictory character, it became customary for marine underwriters to accept risks on "good or bad news"—that is to say, the ins. was to stand whether the news turned out to be true or false. If it proved true that the vessel had been lost or captured, the underwriter bore the loss; if otherwise, the insured was the sufferer to the extent of the heavy prem. he had paid.

Most of the early Marine Ins. Ordinances of the different countries and maritime cities of Europe recognized Ins. contracts of this class. We give a few examples.

1598.—The *Amsterdam* Ins. Ordin. of this date provided as follows:

But if the ship or goods have perished, been pillaged, or damaged so long since that the assured

could have had information by sea or land, counting 3 leagues per 2 hours, such assu. is held null, and in this case the assured should be regarded as if he had known of the accident, without the possibility of any proof or declaration to the contrary being received; unless he has assu. "upon good or bad news," when the assu. to be valuable, if assurer cannot prove assured to have had knowledge of the damage before he effected the assu.; and when the last is willing to make an oath that he had none.

1600.—The Ins. Ordin. of the City of *Middleburg*, in Zealand, of this date, contains the following:

xiii.—Provided that assu. made three months after the departure of any ship within Europe, Barbary, or thereabout, or places at a greater distance, shall be deemed void and of no value for six months after the departure, unless that the assured acquaints the assurers therewith, and makes his assu. upon good or bad news.

1681.—The *French* Ins. Ordin. of this date recognized Ins. contracts of this character. Emerigon, in his famous work on Ins. 1783 (Meredith's trans. 1850, p. 643), says:

Targa . . . and Casaregis say that the clause on good or bad news indicates that one has reason to fear that the vessel is already lost; and they add that on account of this the insurers never fail to stipulate a higher prem. That may have been so formerly; but at the present day, when it is the custom to insert this clause in all pol., but little attention is paid to this, and the prem. is not on that account augmented. The league and a half per hour occasioned a thousand lawsuits, and gave rise to the most embarrassing questions. Hence the practice has been introduced of renouncing it. The agreement to this effect is printed in our smaller form, and our brokers and notaries insert it commonly in the pol. they receive; by this means the decisions cited in the preceding sec. are become almost useless. The way in which mercantile bus. is conducted at the present day, and the facility of correspondence, have rendered superfluous various precautions which might have been necessary in the last century.

The renunciation of the league and half per hour, and the agreement on good and bad news, are synonymous. The two clauses, when both inserted, are cumulative, but one suffices. I become your insurer and I promise to pay you the loss, even though the news of the disaster should reach us a moment after the signing of the pol.; by reciprocity of insuring you pay me, or promise to pay me the prem., which will be earned by me, even though the news of the safe arrival of the vessel should reach us an instant after the completion of the instrument. The contract is reciprocal: it turns on a benefit to the assured if bad. But at the time of signing the pol. the fate of the vessel must have been uncertain, and the two parties must have acted in good faith; otherwise the clause on good or bad news would be null, and the contract also would be so. . . .

The introduction of the Electric Telegraph has changed the practice of Marine Ins. in many details. It has not, however, done away with attempts at fraud; and it is clear that it may, on the contrary, by furnishing prompt information to owners and agents, be the means of occasionally aiding in such attempts. It was on a charge of this sort that certain members of Lloyds were expelled in 1870—pol. on the *Venezuelan* S.S. West India and Pacific Line.

GAMBLING INS.; LOST OR NOT LOST; NEWS; PRIZES.

GOOD CONSIDERATION.—As distinguished from valuable consideration. A consideration founded on motives of generosity, prudence, and natural duty—such as natural love and affection.

GOOD FAITH.—This is the foundation upon which all Ins. contracts are assumed to be based; hence any departure from it renders them void *ab initio*—from the beginning. So essential is this principle regarded, that even any unintentional omission or mis-statement may vitiate the contract. Whether these latter be occasioned by the principal, or by an agent, is immaterial; and in this view an agent acting ordinarily for the Co. will, in negotiating any particular ins., be held to be, in that matter, the agent of the insured, and not of the insurer. The knowledge of the agent is deemed the knowledge of the principal, and *vice versa*.

Good faith forbids either party, by concealing what he privately knows, to draw the other into a bargain, from his ignorance of that fact, and his believing the contrary.—Lord Mansfield, in the famous Ins. case *Carter v. Boehm*.

The question has already been considered in some detail under CONCEALMENT; also under FRAUD; and will receive further elucidation under MISREPRESENTATION.

We have, in the two first-named articles, had in view most prominently the contract of Life Ins.; but the principle really applies equally to all other branches of Ins. Thus Park, writing more particularly on Marine Ins., lays it down that the contract of Ins. is one of good faith and fairness on both sides; this excludes—1, concealment of all matters material to the risk on the part of the insured; 2, misrepresentation; 3, unseaworthiness; and 4, breach of warranty. If any of these affect the pol., it will be void; as also, he adds, will it be from deviation from the prescribed course of the voyage.

Some of the early Maritime Ordin. were very strict in their enforcement of the necessity of good faith. Thus the Ins. Ordin. of *Amsterdam* (1744) says:

LVI. And whereas the contracts of Ins. are judged to be contracts of good faith, wherein no fraud or deceit ought to take place. In case it is found that the insured, or insurers, captains, skippers, pilots, or others use fraud, deceit or craft, they shall not only not profit with their said deceit and craft; but shall also be liable to the loss and damage, with int., occasioned by them, and be corporally punished and corrected for a terror, and example to others; even with death as pirates, and manifest thieves, if it be found that they have used notorious malversation, or craft. The whole according to the edicts of this country.

It would go very hard with a great many concerned with Marine Ins. in this country if such a law existed, and were enforced.

1758.—In the case of *Cleeve v. Sir Crisp Gascoigne*, before the English Court of

Equity this year, where the point turned upon the question of "good health," which was answered (by a person insuring the life of another) in the affirmative, whereas it afterwards appeared that the life insured was a "drunken fellow,"—Lord Chief Justice Holt said, "I have constantly attended at Guildhall during the last war, and was concerned in various cases of this nature; and by all the foreign books, as well as our own, the learning concerning insurances, as well of lives as of ships, was thoroughly settled and established: every party concerned in an ins. must communicate every circumstance he knows, in order to ascertain the prem., which otherwise will be affected, and the pol. void." [GOOD HEALTH.]

Latest Decision hereon.—By far the most important decision hereon was recently declared by the Master of the Rolls—a Judge so strong that any appeal is very improbable—in the case of *London Assu. v. Mansel*, 1879 [*Law Reports*, Chanc. xi. p. 363], and here it is declared that there was no difference between one kind of ins. and another in regard to the degree of good faith to be observed; the greatest good faith was necessary in all cases.

The facts in the case were these: The defendant, in the proposal form forwarded him by the plaintiffs, was asked (*inter alia*) the following questions: "Has a proposal ever been made on your life in any other office or offices? If so, where? Was it accepted at the ordinary prem., or at an increased prem., or declined?" The deft., who alleged in his defence that he considered the question meant "medically" rejected, answered as follows: "Insured now in two offices for £16,000 at ordinary rates. Policies effected last year." He signed the usual declaration at the foot of the proposal that the "particulars given were true, and that he agreed that the proposal and declaration should be the basis of the contract between him and the *London Assurance*." Relying on the above answers, the plts. accepted the defendant's life, and he paid the first year's prem. Before issuing the pol., the plts., however, discovered that at the very time he had made the above answers, he had been declined by no less than five other offices. By three he had been rejected prior to any medical examination, by another because he could not attend personally, and by the fifth because they discovered, even after acceptance, but before they received his prem., that one of the offices where he was already insured had declined to increase their risk. On these discoveries the plts. refused to deliver a pol., and commenced an action to set aside the contract made with the defendant. In the defence the above facts were admitted, and the plaintiffs accordingly moved for judgment on the pleadings.—The Master of the Rolls, in giving judgment, *considered there was no difference between one kind of ins. and another, and that in all the greatest good faith was required.* The answers, he thought, were plainly evasive, and intended to convey the inference that the defendant had not been declined by any other office. The dealings with the other offices his Lordship looked upon as most important factors to a new office, and as most material to be disclosed. Any one, he said, conversant with life offices, could not doubt such to be the case; and this was shown by one office having declined the defendant because another would not increase their risk. *But even if the question was to be treated as unanswered, the result, to his mind, was the same, as in that case the defendant had been guilty of concealment of facts material to be known to the assurers.* He was of opinion, therefore, that the plaintiffs were clearly entitled to set aside their contract with the defendant, and were not bound to deliver him his pol.—The above will be the leading modern case: it clearly establishes the proposition as to Life Assurance, that the most perfect good faith is required, and that it is for the office to judge what is material or not.

GOOD HEALTH.—By "good health" is ordinarily implied freedom from temporary or chronic disease or ailment; as also from malformation, or from the effects of any accidental or other injury. From an Ins. point of view, the term may be understood as conveying the idea of being of average physical development, and free from constitutional weakness, or hereditary taint, not only as far as these can be judged by ordinary observation, but so far as the knowledge of the proposer extends.

The forms of proposal used by the early Life Offices contained only a few general questions, of which the chief was, whether the person proposing was in "good health"? But it may well be that different persons take different views of what constitutes the essentials of good health in their entirety; and hence it will be instructive to review some of the cases that have turned upon this point.

1699.—*The So. of Assu. for Widows and Orphans*, founded this year—the first Life Ins. Asso.—required each member to make an affidavit, "that he has not any known distemper upon him, and that he is in a very good state of health;" and the Court (of Directors) had power to refuse the sickly and infirm, and such as lived in marshy and unhealthy parts of Eng. Art. 7.—See *LIFE INS., HIST. OF.*

1758.—In the case of *Cleave v. Gascoigne*, before the English Courts of Equity this year, the facts were these. In June, 1749, the deft. applied to a broker to obtain for him £1600 ins. for one year at 5 p.c. on the life of one Poulton, from whom the deft. had agreed to purchase an estate, whereof Poulton had the reversion in fee, and also an intervening estate for his own life. The broker answered that the course of the Ins. Office [this seems to have been the Office for Marine Ins. founded during the reign

of Queen Elizabeth—see OFFICE OF INS.] was to produce the person whose life was to be insured, in order to be inspected by the insurers or underwriters: to which the deft. replied that the person lived at a great distance in the country, and that it was very inconvenient for him to come to London; and on the brokers asking the defendant, "whether he was a *good life*?" the deft. answered "he was," and added that he would leave a note of his name and place of abode, which he accordingly did. On this declaration of the deft. the broker procured 16 persons to underwrite a pol. of ins. for £1600 [£100 each] on Poulton's life, at the rate or prem., and for the time before mentioned. About 5 months afterwards Poulton died. In 1750 the present deft. brought his action at law, and recovered the amount of the ins. Cleeve, one of the underwriters, afterwards brought a suit in Equity to recover the amount he had so paid, suggesting fraud and imposition. The present deft. admitted that Poulton was a "drunken fellow," and under proceedings directed by the Court the plt. obtained a verdict; but the jury acquitted the deft. of fraud. This was but one of many such cases. [LIFE INS. UNDERWRITERS.]

1760.—There was before the English Courts the case of *Ross v. Bradshaw*, when the facts were these. Ins. on life of Sir James Ross for one year commencing 22nd Oct. 1759, with warranty from the insured that Sir James was then a good life. Sir James had received a wound in his loins at the battle of La Feldt in 1747, which had occasioned a partial relaxation or palsy, so that he could not retain his urine or fæces: which circumstance was not mentioned to the insurers at the time of effecting the ins. At the end of 11 months Sir James died of a malignant fever. Lord Mansfield, in his charge to the jury, drew certain distinctions between what was then designated a common ins., as against ins. with a warranty—a distinction now happily long since abolished—which appears to have complicated this case. The able reporter sums up the result as follows: "It appearing by many witnesses that the consequences of Sir James's wound were inconvenient only, and not dangerous to his life at the time of the ins., the jury found a verdict for the plt." (*Blackstone's Rep.*, p. 312.)

1780.—The case of *Willis v. Poole* came before the English Courts at this date; and the circumstances attending it led the Life Offices to ask for more precise information regarding the existence, or otherwise, of constitutional diseases. It was an action on a pol. during the life of Simeon Stuart, Bart., from the 1st April, 1779, to the 1st April, 1780, and during the life of Eliza Edgely Ewer. The pol. contained a warranty that Sir Simeon was about 57 years of age, and in good health, on the 11th May, 1779; and that Mrs. Ewer was about 78 years of age. Sir Simeon died within the year. On action brought, the defendant pleaded the warranty of health. It appeared in evidence that although Sir Simeon was troubled with spasms and cramps from violent fits of gout, he was in as good health when the pol. was underwritten as he had been for a long time before. It was also proved by the broker who effected the pol. that the underwriters were told that Sir Simeon was subject to gout. Dr. Heberden and other gentlemen of the faculty were examined, and proved that spasms and convulsions were symptoms incident to gout. Lord Mansfield, before whom the case was heard, said in his judgment:

The imperfection of language is such that we have not words for every different idea; and the real intention of parties must be found out by the subject-matter. By the present pol. the life is warranted, to some of the underwriters, "in health;" to others in "good health;" and yet there was no difference intended in point of fact. *Such a warranty can never mean that a man has not the seeds of disorder.* We are all born with the seeds of mortality in us. A man subject to the gout is a life capable of being insured, if he has no sickness at the time to make it an unequal contract.

Verdict was given for the plaintiff.

Towards the close of the last, and early in the present, century, there was a great extension of the bus. of Life Ins., and the practice became modified in many material respects.—See LIFE INS. PRACTICE; LIFE INS. PROPOSALS.

1813.—In the case of *Watson v. Mainwaring* [Equitable So.], before the English Courts this year, there was a warranty that the insured was free from any "disorder tending to shorten life," while in fact the proposer was afflicted with a disorder of the bowels which might proceed either from a defect of the internal organs, which would tend to shorten life, or it might proceed from dyspepsia, which would not, unless organic and excessive; and it was left to the jury to say upon the evidence, whether it was dyspepsia or not, and if dyspepsia, whether it was organic and excessive. The jury found for the plaintiff. Mr. Justice Chambre, in summing up, said:

All disorders have more or less a tendency to shorten life, even the most trifling: as for instance corns may end in mortification; that is not the meaning of the clause; if dyspepsia were a disorder which tended to shorten life within this exception, half the members of the profession of the law would be uninsurable.

1834.—In the case of *Duckett* [Provident Life] v. *Williams* [Hope Ins. Co.], before the English Court of Exchequer this year, the facts were these. The transaction was one of re-insurance between two Life Offices. The declaration in the proposal stated that the life to be insured was in "good health," and it was agreed that if any untrue averment was contained therein, or if the facts required to be set forth in the proposal (annexed) were not truly stated, the prem. should be forfeited, and the assu. be absolutely null and void. The statement as to the health of the life was untrue in point of fact, but not to

the knowledge of the party making it. *Held*, that the prems. were forfeited and could not be recovered. Lord Lyndhurst, in delivering the judgment of the Court, said :

... The point is whether the facts stated were not truly stated within the meaning of the declaration and agreement. It was contended on behalf of the plts. that the words must mean "truly" and "untruly" within the knowledge of the party making the statement; and that if the party insuring ignorantly and innocently makes a mis-statement, he is not to forfeit the prems. under the clause in question. We are of opinion, however, that this is not the real meaning of this clause. *A statement is not the less untrue because the party making it is not apprised of its untruth*; and looking at the context we think it clear that the parties did not mean to restrict the words in the manner contended for. Two consequences are to follow if the statement be untrue; one, that the prems. are to be forfeited; the other, that the assu. is to be void. Now if the statement were untrue, within the knowledge of the party making it, the assu. would be void without any such stipulation. The knowledge of the party is clearly immaterial as to this last consequence, and therefore must be so as to the first; for it would be contrary to all rules of construction to hold that it was material as to one consequence and not as to the other. We are therefore of opinion that these prems. are forfeited under the clause in question, and that a non-suit must be entered.

1840.—In the case of *Rawlins (Eagle Life) v. Desborough (Atlas Life Ins. Co.)*, before the Court of Queen's Bench this year, it was *Held*, by Lord Denman, that, if to an action on a life pol. it be pleaded that the declaration of "good health" in the proposal was untrue, the plaintiff is entitled to begin : as it lies with him to estab. that which is the very condition of the ins.

1845.—In the case of *Hutchinson v. National Loan Fund*, before the Court of Session (Scotland) this year, the proposal contained a declaration that the party had no disease or symptom of disease, and was then in good health, and ordinarily enjoyed good health, and that no material circumstance or information touching health or habits of life, with which the insurers ought to be made acquainted, was withheld. It was *held* by the Court, that this imported a declaration only to the effect that the declarant was, and had been, according to her own knowledge and reasonable belief, free from any disease or symptoms of disease, material to the risk, and did not impart a declaration against any latent imperceptible disease, that could only be discovered by *post-mortem* examination, or from symptoms disclosing themselves at an after-period of time.

1850.—The case of *Rose v. Star Ins. Co.* was before the Irish Courts this year. It was *held*, that where a declaration on which a pol. is grounded states that the person about being insured has no diseases or habits having a tendency to shorten life, the omission to mention a disease *not having a continuing tendency to shorten life* does not render the pol. void.

1855.—The *Magdeburger Life*, founded this year, extended the doctrine of "good health" guarantee further than it had previously applied. It was there made a condition of forfeiture of life pol., if the insured commenced a *dissipated course of life, or a career dangerous to health*; or if he *voluntarily injured his health or life*. This seems quite reasonable and proper. Under ordinary life pol. a man who has kept his constitution sound up to the time of ins. may commence to destroy it with impunity afterwards.

1857.—In the case of *Peacock v. The New York Life Ins. Co.*, before the Superior Court of N.Y. this year, it was *held*, that in the case of the *renewal* of a life pol., where no new conditions respecting health are imposed, and only a general condition is inserted that the party is in "good health," this expression must be construed by the terms of the orig. pol. and the statements therein made respecting health. And, therefore, when the insured is in substantially the same state of health when the ins. is renewed as when it was orig. effected, and no new forms of disease have been developed meanwhile, the Co. will not be relieved upon his death, for the reason that he was not in absolutely perfect health at the time of renewal. [1 Bosw. 338.]

On appeal this decision was upheld, the Court of Appeals offering in its judgment the following important obs. on the question of the signification of the expression "good health" generally :

The only question now open for our consideration is whether the judge rightly interpreted the condition of the renewal requiring that the assured should, at the time, be in good health. The word "health," as ordinarily used, is a relative term. It has reference to the condition of the body. Thus it is frequently characterized as perfect, as good, as indifferent, and as bad. The epithet "good" is comparative. It does not require absolute perfection. When therefore one is described as being in good health, that does not necessarily or ordinarily mean that he is absolutely free from all and every ill that "flesh is heir to." If the phrase should be so interpreted as to require entire exemption from physical ills, the number to whom it would be strictly applicable would be very inconsiderable. In applying terms somewhat indefinite, reference should be had to the bus. to which they relate. This rule is very necessary when construing a language, which, like ours, is defective in precision. The most important question on application for life ins. is, whether the proponent is exempt from any dangerous disease—one which frequently terminates fatally. It is not usually deemed an objection that one has some slight physical disturbance, of which in all human prob. he will soon be relieved, although it might possibly lead to a fatal disease. A slight difficulty, such as the sting of a bee, the puncture of a thorn, a boil, or a common cold, has sometimes induced complaints which have shortened human life; but this result is so unfrequent and improbable, that the mere possibility is disregarded in the bus. of life ins. Now in the case under consideration, the assured, while admitting that he had been afflicted with dyspepsia, with piles, and occasionally bleeding piles, palpitation of the heart and nervousness, and had then a temporary cold, asserted, nevertheless, that he was then in good health. That he was in that condition was admitted by the Co. when it issued the pol. The admission would have concluded the Co. so that it could not have controverted the allegation of good health unless upon proof of some complaint, or tendency to disease, in addition to what was contained in the declaration of the assured, if he had strictly complied with the stipulation for the payment of the prem. When the pol. was continued or renewed [revived] after forfeiture, upon the

condition that the assured was then in good health, he had a right to suppose that the Co. attached the same meaning to those words as in the orig. transaction. If not, and especially if more was required, it should have been so stated explicitly at the time. *It is right to suppose, and such is the legal inference, that where the same words are used in reference to the same transaction, and between the same parties, they should, in the absence of any direct assertion to the contrary, have the same interpretation.* If the Co. had intended to insist upon any other terms than those which governed the orig. ins., they should and prob. would have issued a new pol. By continuing the existing one, with the representations accompanying it, they clearly indicated an intention to resume their previous contract—not to make a new one. Ins. Cos. uniformly consider the representations made by the applicant as a part of, and qualifying the contract. *If in this case there had been any substantial misrepresentation originally by the insured, that would have avoided the pol. after its renewal.* The defs. did not contend in their answer, nor insist upon the trial, that the declaration made by the assured when the pol. was orig. issued, was false in any particular. If it was true then, it was, according to the finding of the jury, true when the pol. was renewed. The effect of the condition imposed at that time was to extend the orig. representation so that it might be considered as then made. That would prevent any loss from the occurrence of any new disease, or the increase of a pre-existing difficulty during the intervening time. There was nothing indicating a disposition to effect any further change as to the orig. contract. The same prem. was then and still to be paid; the same pol. was continued, and upon the orig. application [proposal]. The judge was right in instructing the jury, as he did in effect, that if the same sanitary [sanatory?] condition of the assured, as was represented in his declaration, continued up to and existed at the time when the pol. was renewed, the plts. were entitled to recover. [20 N. Y. (6 Smith) 293.]

We think another American case, *Cover v. Phoenix Mut. Life* [9 *Chicago Legal News*, 144], quoted by Bliss [Life Ins. 2nd ed. 1874, p. 148], contains a more apt interpretation of "good health." It seems (said the Court) "that in the ordinary sense of the term the applicant was free from any apparent sensible disease or the symptoms of them; and that he was unconscious of any derangement of the functions by which health could be tested—in fact, that he was in a good state of health."

1861.—Dr. A. P. Stewart, in continuation of the remarks which we have quoted under GENERAL APPEARANCE, gives the following enlarged view of what may be regarded as good health:

But further, our model life must be free from scars of any kind, especially those of a scrofulous character; he must be a stranger to sore throats and affections of the windpipe; his voice must be free from hoarseness, his breathing must be tranquil and uniform; within his capacious and symmetrical chest, which sounds everywhere clear when struck with the finger, and expands equally in every part, the softness of the inspiration, and the absence of any expiratory sound, show how readily the air tubes and elastic lungs admit, and, by their instant collapse, expel the air. The dullness which indicates the position of the heart, must not occupy a space notably greater or less than the palm; the pulsations of the heart, and the pulse at the wrist, must be regular, equable, and of moderate strength and frequency, not excited by slight emotions, or bodily exertion, into rapid and tumultuous action; palpitations and faintishness are known only by name, as are also hemorrhoids and varicose veins; and the circulation as indicated by a comfortable warmth of skin, is at all times vigorously maintained, even in the remotest corners of the body. In other words, except when at rest in bitter cold weather, cold hands and feet should never be felt.

[CONCEALMENT.] [DISEASED AND IMPAIRED LIVES.] [GOOD FAITH.] [HEALTHY LIFE.] [REPRESENTATIONS.] [WARRANTY.]

GOOD LIFE.—By this term is implied a person in good health, free from bodily ailments or deformities,—a person of full average condition of vitality; also technically in the sense of a healthy life, as distinguished from diseased or impaired lives. Dr. A. P. Stewart, M.D., in his Essay, pub. 1861, and already quoted under various heads, gives the following terse description of a good life:

Speaking generally, and with reference to what may be gathered by a rapid glance, his looks should correspond with the age stated; his limbs and body should be plump, but firm and muscular, and free from palpable traces of injury or deformity; his figure should be erect, well-formed and well-proportioned; his gait steady and easy; his step elastic, his eye bright; his complexion clear and fresh—neither pale nor highly florid: above all, neither shallow nor subject to deep and sudden flushings.

See APPEARANCE BEFORE THE BOARD; DISEASED AND IMPAIRED LIVES; GENERAL APPEARANCE; GOOD HEALTH; MEDICAL SELECTION.

GOOD TEMPLARS.—The Order of Good Templars constitute an Affiliated Friendly So., with whom Teetotalism is a prominent feature. The Order was introduced to Gt. Britain (from the U.S. we believe) only so recently as 1868, and by the end of 1877 it had enrolled some 300,000 members, of whom about 100,000 were children. Many persons of good social position are joining the Order; and the force of their example is very beneficial. The Order differs in some essentials from the *Rechabites*.—See FRIENDLY SOS.

GOODCHAP, WILLIAM.—Was Sec. in London of the *North of England Ins. Co.* during the period the branch was in existence. He died in 1868.

GOODCHILD, EDWIN.—Sec. of Glasgow Rate and Salvage Committee since 1873. He had previously occupied the important position of foreman in the London Salvage Corps, and also that of Wharf and Warehouse Inspector for the Fire Offices generally in London, under Mr. Swanton. He has rendered efficient service in his new position.

GOODLATTE, DAVID RICHARDSON.—Late of Dublin. He became connected with Ins. interests on the founding of the *Etna Ins. Co.* in Dublin in 1866, of which he was a director. On the fusion of the bus. of that Co. with the *United Ports and Gen.* in 1868, he took a very active part in the affairs, and became in consequence greatly involved financially. In 1870 he was declared bankrupt for a sum of £435,931, and after deducting the available assets, the deficiency stood at £375,000, almost wholly incurred by dealings outside his own proper bus. He was of good family and social position—

an educated 'bright' man; and these troubles carried him to an untimely grave, to the deep regret of a very large circle of friends.

Mr. Goodlatte's life was insured under various pol. amounting in the aggregate to £300 in the *Provident Life Office*. The question of whether these pol. could be regarded as in force at the time of his death—the prem. having been tendered to the Dublin agent, after the days of grace had expired, as on other occasions, but this time not accepted—has now been decided in the negative.—*Vide Review*, 1880, p. 130.

GOODRIDGE, J. L.—Actuary, New York. He has manifested great interest, and shown considerable familiarity with problems in Life Contingencies. Some of his papers have been reprinted in the English Ins. Journals.—See *Ins. Record*, 1873, etc.

GOODS.—This word as applied to *Fire Ins.* is an indefinite term, and usually requires some qualification, as "Goods and Chattels," "Goods and Effects," etc. It does not include fixtures; and it applies to inanimate objects only; yet it has been held to cover growing crops. But as applied in *Inland Transport*, and in *Marine Ins.*, signifies merchandize, and is not unfrequently used in pol. in this sense. Several cases are in the law-books bearing thereon. Insuring goods under this general designation with a view to conceal their special character will not avail. There must be full disclosure. See **PERISHABLE GOODS**; **PROHIBITED GOODS**.

1763.—In the case of *Glover v. Black*, before the English Courts this year, it was *held*, that ins. on "Goods" did not extend to respondentia interest. See *Gregory v. Christie*, 1785.

1782.—In the case of *Plantamour v. Staples*, before the English Courts this year, where the owners of "Goods" insured shifted them from one ship to another, it was *held*, that they might still recover for an average loss arising from the capture of the other ship. [**CAPTURE.**]

1785.—In the case of *Gregory v. Christie* it was *held*, that a pol. on "goods, specie, and effects" belonging to a captain, by usage of trade, extends to money expended by him in the course of the voyage for the use of the ship, and for which he charges respondentia interest.

1832.—In the case of *Crowley v. Cohen*, before the English Court of King's Bench this year, the facts were as follow. Carriers on a canal effected an Inland Transit ins. for 12 months upon "Goods" on board of 30 boats named, between London, Birmingham, etc., backwards and forwards, with leave to take in and discharge goods at all places on the line of navigation. The ins. was agreed to be £12,000 on goods, as interest might appear thereafter; claims on the pol. warranted not to exceed 100 p.c., and £5000 only were to be covered by the pol. on any one boat on any one trip. The prem. was 30s. p.c. It was *held* :—

1. That an ins. "on Goods" was sufficient to cover the interest of carriers in the property under their charge; for in general, if the subject-matter of ins. be rightly described, the particular interest in it need not be specified.

2. That the pol. was not exhausted when once goods of the value of £12,000 had been carried by all the boats, or by each of them; but that it continued throughout the year, to protect all the goods afloat at any one time up to the amount insured.

3. That upon the loss of goods on board one of the boats, the assured was entitled to recover that proportion of such loss which £12,000 bore to the *whole value of goods afloat at the time*; and not in the proportion of £12,000 to the whole amount carried during the year. [3 B. & Ad. 478.]

1843.—In the case of *Sutherland v. Pratt*, before the English Courts this year, it was *held*, that a person may make an ins. upon goods "lost or not lost," though he has acquired his interest in them after a partial loss—unless he bought them with a knowledge of the damage.

1863.—In the case of *Schloss v. Heriot*, before the English Courts this year, it was *held*, that in a contract by an owner of a vessel to carry goods, there is no implied condition that the ship is seaworthy. But where, to an action against the owners of the goods for contribution in an average loss, the pleas were that the ship was not seaworthy at the commencement of the voyage, and that the average loss was caused and occasioned by such unseaworthiness, it was then *held*, a good plea in avoidance of circuity of action.

1864.—In the case of *Koebel v. Saunders*, before the English Courts this year, it was *held*, not to be a condition precedent to the attaching of a pol. on goods against sea risks, that the subject of ins. [the ship] should at the commencement of the voyage be fit to encounter the ordinary vicissitudes of a voyage. [**SEAWORTHY.**]

[**CARRIERS.**] [**GOD, ACT OF.**] [**HAZARDOUS GOODS.**] [**INLAND TRANSPORT.**] [**LOST OR NOT LOST.**] [**PARCELS INS.**] [**PERISHABLE GOODS.**] [**PROHIBITED GOODS.**] [**WARRANTIES.**]

GOODS IN BOND.—The term is applied to merchandize lying in certain specified warehouses under the charge of the Officers of Customs pending payment of the Import Duties thereon. These are usually covered by short-term Fire pol., or Floaters. The Government has a lien upon such goods to the amount of the duty payable thereon. In the event of the goods being burned while in bond, it is clear they must be valued less the duty which would be payable on clearing them.

GOODS AND CARGO.—This term signifies no more than “goods,” or than “merchandise,” forming a portion of the cargo of a ship; and has a very different signification from “Goods and Freight,” which constitute two separate insurable interests.

GOODS AND CHATTELS.—The general denomination of things personal, as distinguished from things real, or lands, tenements, and hereditaments. Every species of property movable or immovable, less than a freehold; things movable, therefore including horses, etc. These words in a fire pol. have a more limited signification, and imply personal effects, such as jewelry, dressing cases, wearing apparel, and other personal belongings. [PERSONAL CHATTELS.]

GOODS ON COMMISSION.—These are goods consigned to agents on terms of sale or return; to be paid for on sale. See **GOODS HELD IN TRUST OR ON COMMISSION.**

GOODS AND EFFECTS.—This in *Fire Ins.* is the same as “Goods and Chattels”; but in *Marine Ins.*, “Goods and Effects” would cover a Captain’s Venture. [CAPTAIN’S VENTURE.]

GOODS, HAZARDOUS.—See **HAZARDOUS GOODS.**

GOODS, HOUSEHOLD.—See **HOUSEHOLD GOODS.** This term is used to cover furniture, fittings, and personal effects; but not merchandise or trade fixtures.

GOODS IN PROCESS OF PACKING, INS. ON.—In large manufacturing towns and districts large quantities of perishable goods are frequently in the custody of “Packers,” and according to the custom of the trade the Packers are liable for the same if destroyed by fire; and they protect themselves by *Fire Ins.*

In 1876 a novel case arose, viz. *Berger v. Greatorex* and the *London and Southwark Ins. Co.*, the facts being these:—The plts. were French merchants, carrying on bus. in Manchester, and had become tenants to the defts., who were packers, on terms (contained in letters) that the defts., Greatorex & Co., should hold them insured against loss by fire in respect of all goods “intended for making up or packing by the defts.” Goods of the plts. to the value of £5400 were destroyed by fire, of which about £5000 worth had, according to the plts. contention, been “intended by the plts. for making up or packing by the defts.” The plts. were also covered by a pol. with the *London and Southwark Ins. Co.* to the extent of £3000, and the contention of the *Ins. Co.* was that the contract with the defts., Greatorex & Co., operated as a double ins., and that the plts. were, therefore, under the conditions of their pol., entitled to a rateable proportion only of the £3000 insured by the *Co.* It was contended on behalf of Greatorex & Co. that an intention formed in the mind of the plts. to pack certain goods with the defts., but unevincenced by any external acts, could not render the defts. liable as insurers of goods which were not in their actual or constructive possession. Evidence was also tendered by the defts. that by the custom of the packing trade the liability of the latter as insurer was limited to goods in his actual or constructive possession. The jury found a verdict for the full amount claimed; but an intimation was given of seeking a new trial.

GOODS, PERISHABLE.—See **PERISHABLE GOODS.**

GOODS, PROHIBITED.—See **PROHIBITED GOODS.**

GOODS ON SHORE.—When merchandise is landed at its port of destination, the risk of the underwriter is at an end, unless otherwise specified in the pol.; and even if they should then be destroyed by perils of the sea, as inundation from unusually high tide, or other cause, they would not be at the underwriter’s risk, except by special agreement. [TERMINATION OF RISK.]

But with goods waiting to be shipped, and placed upon the jetty or wharf ready for this purpose, there may be more doubt. The *French Marine Ordin.* of 1681 says:—

xxxiii.—When masters of vessels have orders to touch at different ports, the insurers shall not be liable to accidents that may happen to goods on shore, though they were destined for the cargo of the ship on which they underwrote, and she was in port to take them in, except there be a particular agreement in the pol.

See hereon **COMMENCEMENT OF RISK OR VOYAGE: DURATION OF RISK.**

Goods on shore waiting for shipment, or after cargo is discharged, are frequently protected by *Fire Ins.* pol. either Specific or Floaters.

GOODS SOLD, BUT NOT DELIVERED (or not removed).—When covered by the pol. as such, are to be estimated at market values to the owner at the time of the fire—no allowance being made for profit on the sale. *Griswold’s Adjustment of Fire Losses*, 1877. [GOODS IN TRUST.] [PROMPT.]

GOODS, STOWAGE OF.—See **MERCHANDIZE, STORAGE OF.** [STEVEDORES.]

GOODS IN TRANSIT, INS. OF.—See **INLAND TRANSIT INS.**

GOODS IN TRUST, AND ON COMMISSION, INS. OF.—The practice of insuring goods held in Trust or on Commission is a very general one, and took its rise in the necessities of trade and commerce. Carriers, coachbuilders, commission merchants, forwarding agents, granary keepers, millers, packers, pawnbrokers, picture dealers, sugar refiners, wharfingers and others, hold continuously in their possession large quantities of goods in which they have no interest, other than that of safe keeping while in their custody, in view of a profit or commission upon them when sold. The customs and conveniences of trade have determined the liabilities of persons so circumstanced; and *Fire Ins. Cos.* have shaped their contracts to these requirements. Many of the usages are quite

technical; and all we propose to do here is to give an historical outline of points and cases which have arisen in connexion herewith.

1704.—In the scheme of the *Lombard House Fire Ins.*, set out under title *FIRE INS.*, HIST. OF, under this date, it was announced: "*All persons pledging goods with the said Corp. may insure them at the same time; in which case an allowance will be made for the time they remain with the Corp.*" This was the first office that insured "Household Furniture" and "Trading Stock," from fire in Great Britain.

1721.—The *London Assu. Corp.*, in its Proposals for Fire Ins., first issued this year, announced that it insured "Goods on Commission."

1722.—The *Royal Exchange Assu. Corp.* assumed that "all merchants and others having goods on commission may insure the same for the benefit of the proprietors."

1727.—The new Proposals of the *Sun Fire* issued this year contained the following: Goods and merchandize, etc., "in trust or on commission may be insured, though not the property of the person insuring, provided the same are declared in the pol. to be on trust or commission, but not otherwise."

The practice has continued much as it was settled by these early offices down to the present time.

1827.—The American case of *Parks v. General Interest Assu. Co.* was founded on the following facts. The insured were commission merchants, and took out a pol. with defts. for "\$10,000 on merchandize in their store, and by them held in trust." At the time of effecting the ins. they represented to the Co. that they were in the habit of receiving goods for sale; that they had made advances on some of them, and upon some had not made advances; that the goods on hand were constantly changing by sales and new consignments; and that they wished a pol. on such goods to secure themselves against loss by fire, as the consignors might not be able to repay the advances. These representations being by agreement made part of the case. It was held, that the pol. covered all the goods which insured held as consignees; but that it must be limited to the interest which they had in the goods at the time of the loss, and could not be extended so as to protect the interest of any of the consignors. [5 Pick. Mass. 34.]

1828.—In the American case of *De Forest v. Fulton Fire Ins. Co.*, the pol. insured "goods as well the property of the assured as those held by them on commission," and further agreed to make good to the assured all loss and damage, to be estimated according to "the true and actual value" of the property at the time the loss shall happen. Held, that the insured might recover the whole value of such property destroyed, and not merely their lien or advances made thereon. [1 Hall, N. Y. 84.]

1829.—In the American case of *Brichta v. New York Lafayette Ins. Co.*, under a pol. in plts. own name, providing in its conditions that "goods in trust or on commission must be insured as such," etc., it was held, that the plt. could not recover for advances made on certain musical instruments left with him in trust, as they were not covered by the pol. [2 Hall, N. Y. 372.]

1830.—By the English Common Carriers Act of this year—11 Geo. IV. & 1 Wm. IV. c. 68, sec. 1—carriers, etc., were not to be liable for loss of certain goods above the value of £10 unless declared as such, and the extra required rate of carriage paid. See the effect of this Act under 1859 of this art. [CARRIERS.]

1835.—In the American case of *Millaudon v. Atlantic Ins. Co.* the pol. was "on his goods, stock-in-trade, etc., or on commission, or held in trust;" and it was held:—1. That the pol. covered goods in stores, bought on joint account and sold for the mut. profit of the insured and another party, the insured being also in advance upon the venture. 2. That insured was absolute owner of one-half of the goods in stores, and had an insurable interest in them as "stock-in-trade," and also to cover his advances on the stock. [8 La. 557.]

1850.—In the American case *Siter v. Morris* it was held:—That a pol. on "merchandize generally, and without exception their own, or held by them in trust; or on consignment," in the warehouse of a commission and forwarding merchant, covers "household furniture, wearing apparel and books," received and held on deposit by the said firm subject to the order of the owner; and such owner can receive his proportionate share of the ins. money received by the said firm under such pol. [13 Penn. St. 218.]

1852.—In the American case, *Rafael v. Nashville Marine and Fire Ins. Co.*, one of the conditions of the pol. was in these words, "Goods held in trust or on commission are to be declared and insured as such, otherwise the pol. will not cover such property; goods on storage must be separately and specially insured." The insured held the goods in pawn. Held, that they were goods in trust, and as he made no declaration and ins. of them as such, according to the condition of his pol., they were not covered by it. [7 La. An. 244.]

1853.—In the American case of *Lee v. Howard Fire Ins. Co.* the ins. was upon "goods his own or held by him for others on commission" by a pol. stipulating that only three-fourths of the value of the goods should be paid. Held, that insured might recover the full three-fourths of the value of the goods, although consignor had not ordered the ins. or known of the pol., and although insured had not made any cash advances on them. [11 Cush. Mass. 324.]

1854.—In the Scotch case of *Dalglish v. Buchanan*, a coachbuilder took a fire pol. on stock his own, and held in trust and on commission. *Held*, that out of the ins. money he might pay himself in full, and *quære*, whether he could be compelled to divide the surplus with his customers. [16 Cases in the Court of Session, N.S. 332.]

1855.—In the American case of *Etna Ins. Co. v. Jackson* it was *held*, "that a pol. insuring all the articles constituting a Pork-house, and all articles contained within the building described and appurtenant thereto, covers all within those buildings, without regard to the particular ownership of each or any article which was at the risk of the insured. [16 B. Mon. (Ky.) 250.]

1856.—In the English case of *Waters v. Monarch Ins. Co.*, before the Court of Queen's Bench this year, the facts were these. The plt. effected with the deft. Co. a pol. against fire, wherein he was described as a corn and flour factor; the pol. was on goods in his warehouses, and on "goods in trust or on commission." The Co. contracted with him to make good any damage by fire to the property insured. The plt. was also a wharfinger and warehouseman; he had in his warehouses goods belonging to his customers, which were deposited with him in that capacity, and on which he had a lien for the charges for cartage and warehouse rent, but no further interest of his own. No charge was made to the customers for ins., nor were they informed of the existence of the pol. His warehouse was consumed by fire, with all the goods in it. The Co. paid the value of his own goods, and the amount of his lien on his customers' goods, but refused to pay the value of the customers' interest on the value of goods beyond the lien. *Held*, that the goods of the customers were in trust, within the meaning of the pol.; and that he was entitled to recover the entire value.

The effect of this case was to estab. the principle that warehousemen and wharfingers with whom goods are deposited have an insurable interest in such goods, although there has been no previous authority to insure given by the real owners, nor any notice given to them of such ins. Such goods are properly described in the pol. as "goods in trust"; and the insured is entitled in such a case to recover from the Ins. Office the full value of the goods destroyed by fire; but are liable to account to the true owners for the excess of the money received beyond the amount of their own charges in respect of such goods. [25 L.J. Q.B. 102.]

In the American case of *Turner v. Stetts*, decided this year, it was *held*, that a provision in the pol. that "property held in trust or on commission must be insured as such," otherwise the pol. will not cover it, includes everything in which the insured has only a qualified interest with the possession, while the ownership is in a third person. [28 Ala. 420.]

1859.—In the English case of *London and N. Western Co. v. Glyn* [*Globe Ins. Co.*], before the Court of Q.B. this year, the facts were these. The plts. were common carriers. They effected a pol. with the deft. Co.; and it was a condition of the pol. that "goods held in trust or on commission were to be insured as such, otherwise the pol. would not extend to cover such property." By the pol. the sum of £15,000 was declared to be insured "on goods their own and in trust as carriers," in a warehouse; and it was stipulated that the funds of the Co. were to be "liable to pay, reinstate, or make good to the assured all damages and loss which the assured should suffer by fire, on the property therein particularized." Another condition was: "In every case of loss duly proved, the Co. will either reinstate the property, or the assured shall receive satisfaction to the amount thereof, without discount or deduction." *Held*:—1. That the amount named, the whole value of goods in the warehouse, in their possession as carriers, was insured by it, and not merely their interest as carriers in such goods. 2. That they were entitled to recover the whole value of such goods destroyed by fire in the warehouse; although, as the value of such goods exceeded £10, and the owners had not declared such value to the carriers, the latter were not liable to the owners for such loss by reason of the Carriers' Act of 1830. 3. That the carriers would be trustees for the owners of the goods of the amount thus recovered, less their charges as carriers in respect of the goods.

In the American case of *Stillwell v. Staples*, this year, it was *held*, that the words in a fire pol., "The property of the insured or held in trust," include cloth left with the assured to be manufactured into clothing. [19 N.Y. 401.]

1864.—In the American case of *Ayres v. Hartford Fire Ins. Co.*, where a condition in the pol. provided "that property held in trust or on commission must be insured as such, otherwise the pol. will not cover such property. . . . By property held in trust is intended property held under a deed of trust, or under the appointment of a Court, or held as collateral security." *Held*:—1. That holding property in secret trust to defraud the creditors of the real owner, was not such a holding in trust as was contemplated by the conditions. 2. That if held as a security for a debt, it would be within the condition. [17 Iowa, 176.]

1867.—In the American case of *Phanix Ins. Co. v. Favourite*, it was *held*, that the term "trust" is not a technical word, but applies to ordinary bailments, and covers a quantity of barrels held on storage. Same in *Home Ins. Co. v. Favourite*. [46 Ill. 263.]

1869.—The Australian case before the Privy Council on appeal this year—*South Australian Ins. Co. v. Randall*—embodies some new features. The respondents, who

were millers, received wheat from different farmers. The wheat, on receipt, was, with the consent of the farmers, mixed with other wheat, and became part of the millers' current stock. The millers could at any time grind or sell the wheat so received. The farmers could at any time claim the price of the wheat delivered by each, according to the market price for wheat of like quality, at the time of payment claimed. There was also some evidence that the farmers had the option of claiming an equal quantity of wheat of like quality, instead of the value in money. The millers often made advances to the farmers on the wheat received from them. The farmers, after a certain time, paid a storage charge to the millers. The respondents insured the current stock of wheat in their mill with the appellants. In the proposal for ins. the respondents answered the question whether the ins. was "for self or in trust, and if in trust, on account of whom?" in these words—"for selves." A condition of the pol. was that goods held in trust must be insured as such, otherwise the pol. would not cover them. The mill and stock were destroyed by fire. To an action on the pol., the appellants pleaded that the statement in the proposal was a misrepresentation—the stock having been held by the respondents "in trust for other persons." On these facts it was *held* (affirming the judgment of the Supreme Court of S. Australia):—1. That the description of the subject of ins. was correct, for that this was not a case of possession given subject to a trust, but of property transferred for value upon special terms of settlement. 2. A bailment on trust implies that there is reserved to the bailor the right to claim a re-delivery of the property deposited on bailment; but whenever there is a delivery of property on a contract for an equivalent in money, or some other valuable commodity, and not for a return of the identical subject-matter, in its original or an altered form, this is a transfer of property for value—a sale, not a bailment. [L. T. Rep. 22, p. 843.]

1871.—In the American case of *Waring v. Indemnity Fire*, the pol. was taken by commission merchants on goods—their own, or "sold, but not removed." *Held*:—1. To cover goods which had been sold and paid for, and technically delivered, in which there was therefore no lien nor any responsibility. 2. That the risk is intended to follow the property, for the benefit of successive owners, though not especially designated, nor having given a previous authority; nor is this forbidden by law. It is done to save the expense of a new ins. after sale. It is not the same as "sold, but not delivered," which refers to sales, where the ownership has not changed for want of technical delivery. 3. The commission merchant may sue in his own name and recover the full amount as "trustee of an express trust," under the Code, s. 113. [6 Hand. 606.]

1872.—In the great English case of *Martineau v. Kitching*, the facts were these. The deft., a sugar refiner, had, in his warehouse, sugar of the value of about £33,000; of which £29,000 belonged to him, and £4000 to plt., which had been bought of and paid for to deft. by plt., but had not been delivered, and, by agreement between plt. and deft., they remained in deft.'s warehouse at plt.'s risk. The whole was destroyed by fire. At the time of the fire, deft. had a floating pol. of ins. for about the sum (£28,000). This pol. was declared to cover stock, the property of the insured, and including goods sold and paid for, but not delivered, on the premises within mentioned. Deft. submitted to the Ins. Co. proof of loss covering the whole £33,000, and received from them the sum of £28,000. It was also in proof that the ins. effected by deft., "including goods sold and paid for, but not delivered," was a purely voluntary ins. on his part, so far as concerned these particular goods of plt. The action was brought by plt. to recover from deft. such proportion of the ins. money received by him as the amount of his (plt.'s) goods (£4000), covered by the pol., bore to the whole amount (£33,000) covered by the pol. *Held*:—The including in the deft.'s pol. of the goods of plt. being purely voluntary, and the loss sustained by the defendant on his own goods being greater than the amount received by him from the Ins. Co., the plaintiff is not entitled to recover anything. *Arguendo*.—Had the deft. received more than sufficient to cover his own loss, probably an implied trust in plt.'s favour would be raised as to the excess.

There was also this year a great American case, *Hough, Clendening and Co. v. People's Fire Ins. Co.*, where the facts were these: Two pol. were issued to the plts. upon Cotton stored in a certain warehouse: loss, if any, payable to the Warehouse Co., who had made large advances to them upon cotton stored in the same warehouse and upon which the Co. had a lien for such advances and for storage. The Warehouse Co. also held at the time of the fire two pol. upon merchandize in the same warehouse, one of which insured them on merchandize "held by them, or in trust;" and the other on merchandize "their own, held by them, in trust, or in which they have an interest or liability." In the pol. held by the plts., and in those held by the Warehouse Co., were stipulations that in case of loss the insured should not recover any greater proportion of the loss or damage sustained by the subject insured than the amount thereby insured should bear to the whole amount insured. *Held*:—1. That "the law seems to be well settled that a person having goods in his possession as consignee, or on commission, may insure them in his own name, and in event of loss, recover the full amount of the ins., and after satisfying his own claim, hold the balance as trustee for the owner." 2. That the pol. issued to the Warehouse Co. cover not only their property, but all held

in trust by them, or in which they had an interest; and that "by goods 'held in trust' are meant goods with which the assured is intrusted, 'not goods held in trust in the strict technical sense—so held that there was only an equitable obligation in the assured, enforceable by a *subpena* in Chancery—but goods with which they were intrusted in the ordinary sense of the word.'" 3. That the plts. cotton was insured by the pol. issued to the Warehouse Co., and that the Co. can recover not only to the extent of their interest, but to the extent of their loss, unless the right of recovery to that extent is limited by some provisions in the pol. 4. Also that the lien for advances and storage constituted an insurable interest in the cotton, and that the plts. pol. "having on their face been made payable to the Warehouse Co., they insured to the benefit of that Co., and may be considered as in favour of the same assured, on the same interest, in the same subject, and against the same risks as the pol. which were issued directly to the Warehouse Co.," and are what are termed double pol.; and that the Ins. Co. issuing them are bound to contribute their respective proportions to the loss. [Ins. Law J. 2, p. 405.]

1877.—The greatest English case of this class, from an Ins. point of view, is that of *North British and M. Ins. Co. v. Liverpool, London and G. Ins. Co.*, wherein the facts were these: A firm of wharfingers [Barnett & Co., "King and Queen" Wharf], who were liable to their customers for the safe keeping from fire of the grain warehoused with them, insured the grain and seed in their granaries with several Ins. Cos. in an aggregate for £151,000; the ins. being expressed to be effected on grain and seed "the insured's own, in trust, or on commission, for which they are responsible." Messrs. Rodocanachi & Co., merchants, having grain to the value of about £42,000 warehoused in these granaries, effected ins. amounting to £60,000 on their grain, by way of indemnifying themselves in case of the insolvency of the wharfingers in the event of a fire. All the pol. contained the usual conditions of average, and also a condition as follows: "If at the time of any loss or damage by fire happening to any property hereby insured, there be other subsisting ins. or insurances, whether effected by the insured or by any other person, covering the same property, this Co. shall not be liable to pay or contribute any more than its rateable proportion of such loss or damage." A fire occurred in the granaries (14 Dec. 1871), and the total loss of grain was of the value of about £115,000. In a suit instituted for the purpose of ascertaining the amounts payable by the several Ins. Cos. in respect of the loss,—*Held* (affirming the decree of the Master of the Rolls):—1. That the grantors of the merchants' pol. were not liable to contribute towards the payment of the loss, but that the whole of the loss was to be made good by the grantors of the wharfingers' pol. 2. The right of contribution only exists when there are two ins. of the same property against the same loss [risk]. (L.T. N.S. 36, p. 629.) [ADJUSTMENT OF FIRE LOSSES.] [CONCURRENT POL.] [DOUBLE INS.] [FIRE INS., CONDITIONS OF.] [INSURABLE INT.] [NON-CONCURRENT POL.] [OTHER INS.] [PAWNBROKERS.] [PROPERTY COVERED BY POL.]

GOODS, WARES, AND MERCHANDIZES.—A form of expression formerly used in fire pol., as intended to include everything in the nature of *mercantile* commodities. It will therefore embrace promissory notes, stock, bank and other shares; and in some cases money, and bank-bills. It has also been held to cover annual growing crops, such as grain, potatoes, turnips, etc. Mr. Griswold remarks: "The phrase would seem to be surplusage, as the term 'goods' includes not only *wares* and *merchandise*, but much other *inanimate* property, which is neither wares nor merchandise—as household furniture, personal or movable estate, movables, etc."—*Fire Underwriter*, p. 412.

GOODWILL.—The advantage or benefit which is acquired by a bus. beyond the mere value of the cap. stock, funds, or property employed therein; in consequence of the general public patronage and encouragement which it receives from constant or habitual customers. It is considered a subject of sale along with the stock and premises.—*Wharton's Law Lex.*

In the case of Ins. Asso. it may be said to represent the sum sunk in advertisements and foundation expenses with a view to familiarize the name of the Co. in the mind of the public, and to set the bus. in working order. The goodwill only assumes the form of an asset on the occasion of sale or trans. of bus. In a going concern it should be written off during the first three or five years. In a very young Co. it may be said to represent in some sort the proprietors' cap. expended.

Practical questions concerning Goodwill not unfrequently arise in connexion with Ins. Asso. under two differing sets of circumstances. 1. In the case of a transfer of the bus. of one Ins. Co. to another Co., the consideration of the value of the goodwill (which here is usually understood to include the cost of the estab. of the agency system of the Co., in whole or in part) almost necessarily arises. In the case of Life Offices we have known this value assessed as high as 3 years' net prem. income—which we regard as excessive. In the case of Fire, or Accident Ins., and Fidelity or Glass Ins. Cos., 1 year's income is taken as usually representing the value of this item. It is clear, however, that where a bus. has been carried on for several years at a loss, the goodwill must be less than in the case of a bus. which has been carried on at a profit. There may, however, be still a goodwill value attached, varying with the circumstances of the case.

Under title **ASSETS** we have entered upon some of the points affecting the question of Goodwill. There is one consideration as affecting the Goodwill of a Life Asso. which we

did not raise there. It is this. Where a Life Office has been known, or believed, to be for a period of years in an unsound position, and still continues to seek for *new bus*.—*the bus, it obtains will almost of necessity be of an inferior class*. The most marked instance of this was observable in the case of the *European*. [EUROPEAN ASSU. SO.] Here a double process of deterioration was going on—the good bus. was passing out, by way of surrender and lapsing; while only inferior bus. was coming in. The standard thus becomes speedily lowered. On the other hand, lives which have been placed on the books with fraudulent intent are frequently placed elsewhere. In such a case the payment of surrender values may well be stopped. [LAPSED POL.] [SURRENDER VALUES.]

✓ **GOODWILLIE, THOS.**—Sec. of Dublin branch of *Liverpool, London and Globe* since 18—. **GOODWIN SANDS, THE.**—These but too famous sand-banks, lying off the coast of Kent, in the direct line of approach to the mouth of the Thames from the Atlantic Ocean, and the South of Europe, took their origin from land submerged by the sea in 1098. Some 4000 acres belonging to Earl Godwin were so submerged, and have been the cause of untold disaster to shipping ever since. The lighthouse on the North Foreland, erected in 1683, is in view of warning mariners of their proximity to these dangerous quicksands. There were also estab. on the sands at a later date a lighthouse and two beacons; but these were destroyed in 1841; and there is now no such protection—although many schemes have been since proposed. As sailing vessels became replaced by steamers, the casualties have become much lessened.

Anything like a detailed list of the losses to underwriters from these sands is as impossible of compilation, as is the legend of their (the sands') connexion with Tenterden steeple of verification. On the 26th Nov. 1873, no less than 13 men-of-war were wrecked here, and nearly all their crews perished. In the 10 years ending 1871 the sands were fatal to no less than 109 vessels.

GOOLD, GEORGE S.—District Man. in Birmingham for *Norwich Union Life* since 1878. He had been trained to the bus. in the *Life Assn. of Scot.*, which office he entered in 1872. In 1875 he was appointed Chief Clerk of the Glasgow branch of that Co., and in the year following became its Inspector of Agents.

GOOLD, R. W.—Was Sec. of *Agric. Cattle*, 1851 to 1861, when the Co. passed into liq.

GOOLE MARINE ASSU. SO.—Founded at Goole (Yorks) in 1841, for the purpose of mutually insuring the ships of the members. The plan of working was for each member on joining to pay into the funds 5 p.c. on the value of his vessel; and when losses beyond the fund in hand were sustained, the requirements were met by mut. contribution of the members. In 1873 the So. was before the Courts in dispute with one of its members.

GORDON, CHARLES, F.I.A.—Act. and Sec. of *Scottish Provincial*, in Aberdeen, since 1874. He was trained to the bus. of Ins. in the head office of the same Co., which he entered in 1861, as a junior. In 1874 he was elected a Fellow of the Faculty of Actuaries, Edin.; and in 1878 a Fellow of the Inst. of Actuaries in London.

1880.—He read before the Act. So., Edin. a paper: *Surrender Value of a Life Pol.*

GORDON, S. M.—Was Underwriter of the English branch of the Paris Underwriting Assn. *La Melusine* and *La Prevoyance* down to 1878.

GORDON, WM., D.D.—Clergyman and Historian, formerly of Ipswich (Eng.), and afterwards of Boston, U.S., where he published in 1772 a pamph.: *The Plan of a So. for making Provision for Widows by Annu. for the Remainder of Life: and for Granting Annu. to Persons after Certain Ages, with the Proper Tables for Calculating what must be Paid by the Several Members in order to secure the said Advantages*. Boston: Sold by Joseph Edwards and John Fleeming, MDCCCLXXII. The author says in his preface:

Understanding that there were no general sos. of this nature in America, and that the erection of such was wished for by many—and having a desire of contributing my mite towards the happiness of the Colonists, more especially since a personal acquaintance with and numerous obligations to them, I have here collected together and do present to the public materials for forming such sos., wishing that the same may prove of extensive service; at least hoping that they may meet with a favourable reception. The first part contains the plan for the erection, continuance, and government of the So., with the various reasons; the second, the payments to be made by each member, according to his respective age, and the advantages he proposes to obtain. The scheme is larger than those of the London Sos., as it admits of the purchasing annu. to be enjoyed, either by the purchaser after such a period, or by another after his death, in case of survivorship; and notwithstanding difference of age upon proper allowance—affords parents the opportunity of purchasing for their children; brethren for their sisters, and the like—does not exclude females from becoming purchasers—nor debar military and seafaring persons from securing annu. to be enjoyed by them after such an age, though from purchasing annu. for others after their own decease. . . .

The work is, in point of fact, drawn almost entirely from the pages of Dr. Price; but in the preface there occurs the following interesting passage:

It may be agreeable to the reader of Dr. Price's work to be told, that after its publication in the last year, several gentlemen in Lond. were engaged in obtaining information as to the duration of life, both in men and women: and found that men in Lond. of good common health, and exposed to no particular dangers, from 24 to the extremity of old age, die at the rate of 1 in 31 ann.; and that according to the regis. of the Million Bank, widows may live 18 years; according to those of the Mercers' Co. (which in the year 1690 adopted a scheme for paying annu. to widows) 21 years on an average. See *Widows' Fund*.

GORLESTON MUTUAL INS.—Founded at Gorleston (Suffolk) in 1878, for carrying on the bus. of Mut. Marine Ins. The liability of the members is limited by guarantee to £5.

GORRISON, HERR A. W.—Was General Agent in Hamburg for the *Monarch* (1869) during its short career; and out of his connexion with the Co. arose an important legal decision, which we shall mention more in detail in our history of the Co.

GORSUCH, REV.—He kept for a period of 30 years—1751 to 1780—a Register of the Mort. of Holy Cross, near Shrewsbury, from which Dr. Price deduced the *Holy Cross* [or Shrewsbury] *Mort. T.* included in the 4th ed. of his work, 1783. [HOLY CROSS, MORT. T. FOR.] [MORT. OBS.] [PARISH REGIS.]

GORTON, JOHN.—Author, etc., pub.: *Population Returns of Great Britain for 1831.*

GOSBELL, EBENEZER.—A well-known agent who transacted a very large bus. for the *National Provident* in its early days—was indeed one of the most (of the many) successful agents that Asso. had. On the founding of the *Kent Mut.*, he became associated with it; at the same time transacting a considerable bus. for the *Gresham*. He died about 1858.

GOSS FRAUDS [U.S.]—See INS. FRAUDS, 1873.

GOSTICK, J.—Pub. in 1850 a pamph.: *Suggestive Obs. on Life Assu., Descriptive of its Nature, and the Foundation of its Calculations; the Security of Assurers, the Advantages of, and the Objections which are made to Life Assu.; Information Important to Assurers; Examples of Assu.; also a Brief Notice of Data, Success, and Merits, of Fire, Marine, Hail, Cattle, Railway Passengers, Accidental Death, and other Ins. Bus.; and Remarks on Public Guarantee.* This production evinced some knowledge of the subject of Ins.

GOtha, CITY OF.—Capital of the Duchy of Saxe-Coburg-Gotha, alternately with Coburg. Famous in Ins. hist. as the seat of the *Gotha Life Assu. Bank*, founded in 1829; also of a considerable Mut. Fire Office, founded in 1821. [GERMANY, sub-heading *Fire Ins.*] Here is pub. the celebrated *Almanach de Gotha*, which first appeared in 1764.

1878.—The following announcement was made in the *Times* of 2nd Sept. this year: “Cremation becomes optional [with whom?] in Gotha on the 1st of October, and a building has been erected for the purpose. The body of an engineer named Stier will be exhumed, and will be the first to undergo the process.”

GOtha LIFE ASSU. BANK.—Founded in Gotha in 1829, under the title of *Die Lebensversicherungs Bank für Deutschland in Gotha*—and locally known as the “Life Assu. Bank of Gotha”—and under the circumstances set out in detail under GERMANY, sub-title *Life Ins.*, 1829.

The progress of the bus. has been very rapid, and its operations successful. The number of ins. in force at the end of 1874 was 44,644, insuring £12,815,500, and yielding in ann. prems. £434,005.—See *Assu. Mag.* vol. xx. p. 119. The following are the latest pub. details.

1878.—This So. issued this year 4271 new pol. insuring 30,169,200 Marcs [the new *Marc*, or *Pfennig*, is of the approximate value of 1s.] = £1,508,460. The So. has now completed half a century of its age, and has on its books 52,668 pol. in force, insuring M. 147,123,300 = £7,356,160. Its assets are M. 84,000,000 = £4,200,000. It has paid in claims M. 114,000,000 = £5,700,000, and in dividends (bonuses) M. 48,850,000 = £2,442,000! Its present division, upon the prems. paid in 1874, averages 39 p.c. thereon.

GOtha LIFE ASSU. BANK, MORT. EXPERIENCE OF.—The Mort. Experience of this Asso. was first made known in 1855, in a publication: *On the Results of the Operations of the Gotha Life Assu. Bank for the First 25 Years of its Existence, particularly with respect to the Mort. amongst the Lives Assured.* By Herr Rath G. Hopf, Man. of the *Gotha Life Assu. Bank*, and Corresponding Member of the Inst. of Act. in London, and of the Academy for Useful Sciences at Erfurt. A translation of this appeared in vol. v. of *Assu. Mag.* p. 324; and the brief results of the Mort. Experience of the So. which it furnishes have already been given under FEMALE LIFE, this date; but it will be instructive here to review the numbers exposed to risk, and the specific causes of death, in the early years of the So.’s history.

GOtha LIFE—Mort. during the 21 Years 1829-49.

Ages.	No. of completed years of Life.	Actual Deaths in the So.	Expected Deaths in the So.	No. of Deaths that would have happened according to the Mort. of Eng. and W. Males.	Rate of Mort. p.c. <i>Gotha Life.</i>	Rate of Mort. p.c. whole pop. of Eng. and Wales. Males.
15—25	1,912	8	12·0	15·6	·418	·815
26—30	8,788	71	73·8	87·7	·808	·998
31—35	20,408	189	214·6	216·9	·926	1·063
36—40	29,642	304	373·1	343·0	1·026	1·157
41—45	32,846	366	442·0	433·2	1·084	1·319
46—50	29,540	440	481·5	460·8	1·490	1·560
51—55	23,420	450	485·9	453·2	1·921	1·935
56—60	16,846	481	440·3	426·0	2·855	2·529
61—65	10,276	412	334·8	357·0	4·009	3·474
66—70	4,477	271	198·6	221·5	6·053	4·947
71—84	1,734	162	137·3	181·8	9·343	10·482
	179,844	3144	3193·9	3196·7		

GOTHA LIFE—*Causes of Deaths during the 20 Years 1829-48, at different Ages.*

DISEASE.	1829 TO 1838.						1829 TO 1848.						
	AT AGES					Total.	AT AGES						Total.
	21 to 30	31 to 40	41 to 50	51 to 60	61 to 72		17 to 30	31 to 40	41 to 50	51 to 60	61 to 70	71 to 80	
Fever	7	21	38	50	9	125	17	101	143	144	71	15	491
Influenza.....	...	9	10	3	7	29	...	11	12	9	12	5	49
Asiatic Cholera	...	2	5	5	...	12	...	4	12	8	5	...	29
Exanthemic Diseases	1	2	...	1	...	4	2	5	...	1	1	...	9
Local Inflammation	2	20	19	29	15	85	12	72	106	103	75	16	384
Gout and Rheumatism	3	3	7	9	3	25	4	13	25	22	23	2	89
Chronic Pulmonary Diseases	8	38	33	22	7	108	19	115	166	111	46	1	458
Chronic Abdominal Diseases	...	14	14	10	7	45	...	37	65	86	74	12	274
Mental Affections	...	3	1	1	2	7	...	9	11	18	9	2	49
Diseases of Spinal Marrow	...	3	3	2	2	10	...	5	9	7	10	2	33
Organic Diseases of the Heart	1	...	4	3	...	8	2	4	12	20	16	1	55
Dropsy	...	4	17	25	6	52	3	16	56	94	71	11	251
Cancer and Malignant Ulcers	...	1	13	8	5	27	...	2	22	20	14	6	64
Apoplexy	2	10	21	52	27	112	7	29	69	151	116	20	392
Old Age	...	...	...	...	4	4	...	...	...	1	35	42	78
Accidents	...	2	3	3	...	8	...	6	11	13	6	...	36
Murdered	...	...	...	...	...	...	...	1	1	...	...	...	2
Suicide	2	4	2	3	...	11	4	15	19	20	6	...	64
Totals	23	136	190	226	94	672	70	445	739	828	590	135	2807

GOTHA LIFE—*Ratio of Deaths from each of 6 Causes to the whole Mort. during the following Periods :*

DISEASE.	1829-1838.		1839-1848.		1829-1848.	
	Deaths.	Per-centage.	Deaths.	Per-centage.	Deaths.	Per-centage.
Fever	125	18'602	366	17'141	491	17'492
Chronic Pulmonary Diseases	108	16'071	350	16'392	458	16'317
Apoplexy	112	16'667	280	13'113	392	13'965
Local Inflammation	85	12'649	299	14'003	384	13'680
Chronic Abdominal Diseases	45	6'696	229	10'725	274	9'761
Dropsy	52	7'738	199	9'320	251	8'942
Totals	527	78'423	1723	80'694	2250	80'157

It will be remembered that there was a serious outbreak of Asiatic Cholera in Germany in 1831.

1857.—Mr. Neison, after an elaborate analysis of the mort. experience of this So., in *Vital Statistics* (3rd ed. p. 151, etc.), pointed out that it showed this remarkable and peculiar feature: "At the younger ages the mort. is much less than that indicated by any other of the Tables yet alluded to; but at the older ages the rate of mort. is very much greater." He adds:

At present it is difficult, if not impossible, to account for this peculiarity: whether it be due to the different circumstances and habits of life of our continental neighbours, or whether it arises from some mutation in the physical condition of the assuring classes in recent years, and is common to our own country, it is difficult to say; for we have no sufficient amount of data relating to the last 25 years, within which the facts of the Gotha Life Office are limited.

1862.—Dr. Fleming, in his *Medical Statistics of Life Assu.*, pub. in Glasgow this year, gives various comparisons between the rate of mort. experienced by this So. and the *Scottish Amicable So.* (*vide pp. 18-19*), but there can be no useful object effected by reproducing these here.

1863.—Herr Hopf pub. in Gotha: *Historical and Statistical Accounts of the Rise, Progress, and Present Condition of the German Life Assu. Co. of Gotha, with Tables of Mort. compiled from the Experience of the Co. during the 34 Years 1829-62.*

1874.—The Rep. of the So. for this year contained the following:

GOTHA LIFE.—*T. showing the proportion which the actual Mort. of the Year 1874 bore to the Expected Mort.*

Ages.	Insurances in force during 1874.	Deaths.		Difference.		No. of Lives exposed to risk for a whole year.	Mort. per cent.
		Expected.	Actual.	More.	Less.		
15—25	592	3'98	1	.....	2'98	435	'23
26—30	2359	19'91	9	.....	10'91	1970	'46
31—35	5156	51'25	29	.....	22'25	4688	'62
36—40	6657	75'50	30	.....	45'50	6281	'48
41—45	6831	83'59	47	.....	36'59	6628	'71
46—50	6435	98'80	78	.....	20'80	6291	1'24
51—55	5696	114'14	97	.....	17'14	5624	1'72
56—60	4414	113'11	107	.....	6'11	4381	2'44
61—65	3164	104'66	123	18'34	.....	3156	3'90
66—70	2283	103'18	127	23'82	.....	2278	5'58
71—75	1425	100'74	35	34'26	.....	1420	9'51
76—80	651	83'22	85	1'78	.....	649	13'10
81—85	209	46'41	40	.....	6'41	208	19'23
86—90	37	13'54	9	.....	4'54	34	26'47
	45,909	1012'03	917	78'20	173'23	44,043	2'08 average

The average age at entry of those who died had been 40 years 4 months—the first ins. only being regarded where there was more than one on the same life—and at death 61 years 6 months. The average duration of these pol. was therefore 21½ years. The distribution of deaths as regards sex was 860 males and 57 females; and as there were 43,673 males and 2236 females insured, the mort. of the former was 1'97 p.c., and of the latter 2'55 p.c. The mort. of the females was therefore, as usual, somewhat greater than that of the males, although their average age was nearly the same. The deaths by suicide were included in this T. The ages were taken at the dates the prem. fell due during the year. There is no reference to the experience of the year being other than ordinary.

An Appendix to the Rep. gave T. of the causes of death, occupations, months of the year when the deaths occurred, with amount and duration of pol.; the sexes being distinguished. [FEMALE LIFE.] [GERMANY.]

GOTHOFREDAS, J.—Pub. in Geneva, in 1637: *De Imperio Maris de que Jure Naufragii Colligendi, ex Jure Romano*. A work of great learning. [SEA, DOMINION OF THE.]

GOTHLAND.—An island in the Baltic, whereon was situated the famous City of Wisby, the centre of the commerce of Northern Europe during the Middle Ages. The island was conquered by the Teutonic Knights in 1397–8; given up to the Danes in 1524; to Sweden in 1645; conquered by the Danes in 1677, and restored to Sweden in 1679. The earlier of these events probably left their impress upon the famous Code of Sea Laws. The Teutonic Knights played also a prominent part in the affairs of the HANSEATIC LEAGUE.

1868.—This island has come again somewhat unexpectedly into prominence in consequence of an unofficial and unexpected visit to it this year by Mr. Gray, the Assistant Sec. of the Board of Trade, who was assured that there had for some time been an asso. of residents in Gothland, who, in case of a ship being wrecked or in danger, would give assistance after a very profitable fashion. One member would affect to be agent for the shipowner, another for the owner of the cargo, another for the insurers, while another would represent himself as the consular agent, and yet another would become agent for the salvors. They could thus get the management of the case into their hands, and, living at various parts of the island, they formed a sort of network around it. In one case the sum demanded for salvage would be enormous; and an appeal to the Courts in Wisby is attended with vexatious delay. Another case, says Mr. Gray, would take this shape:—

A vessel got on shore; the weather was fine; and she was taken afloat the same day by a person who is reported to be a member of the Gottland organization, very little damaged, and lay in harbour for many days. She did not make more water in any one day than could be pumped out in ten minutes, or at the outside a quarter of an hour. After lying in harbour leaking steadily at this rate for some time, one day she suddenly leaked heavily. The ship was examined, and it was found that some of the oakum had been driven out of the seams. This was repaired, and the vessel did not leak much while the oakum remained in it, but it was pulled out again. The captain and mate were subsequently seen to go on board the vessel on two occasions. After one of their visits the vessel got deeper in the water, and after the other she went down altogether at her moorings. A survey was held, and the vessel was condemned in due course. She was a new ship, and was sold for about one-fifth of the sum for which she was insured. She was bought by a member of the organization, who was salvor, and the conditions of sale were strongly against any one else buying her. Shortly after the sale was effected, the leak was stopped and she was afloat in a few hours. Her bottom was

repaired by a few hands, and she took in cargo and sailed away. She was re-christened, and is still running. The agent of the underwriters, who is also reported to be a member of the organization, had a representative present at the sale in their behalf, and the underwriters dismissed him on account of this case, and declined to pay ins.

This was said to be not so bad a case as some. Excessive ins. tempts owners to contrive collusive losses, and a still more serious evil in Gottland is collusion between the master and salvors. The underwriters had employed as a special agent in some cases Lieutenant Falk, of the Gottland Militia, and he had done much to protect their interests, though subject to organized opposition and innumerable difficulties. There has been no British consular agent in Wisby for some time, and, owing to the urgent representations of Lloyd's and the representations also of the British Consul at Stockholm, the British Foreign Office in 1868 appointed Lieutenant Falk to that office; but the Swedish Government declined to grant him an exequatur. It is against their rules for an officer of the Swedish army to hold such an appointment, and there was a difference between Lieutenant Falk and the Governor of Gottland on some question of discipline, making it difficult or impossible for the two to work together.

1869.—In another report to the Board of Trade, Mr. Gray stated that among the 220 coasting passenger steamers of Sweden there has been a loss of only 3 ships in 10 years; while among 215 passenger coasting steamers of Gt. Britain, 17 had been totally lost under circumstances so grave as to require a formal and extensive inquiry by the Board of Trade. But then, it is added, the Swedish masters are paid partly by a share of the profits; self-interest is made to run hand in hand with duty. They get well paid if they do their best. If the ship is wrecked, they lose their per-centage, and find it difficult to get another ship. Mr. Gray submits that the facts he has stated afford ground for consideration and further inquiry. We believe matters have since improved.

GOTLAND, SEA LAWS OF.—See **WISBY, LAWS OF.**

GOTTENBURG.—An ancient city in Sweden, of considerable mercantile importance. The police make inquiries into the causes of fire here. The inquiry is compulsory in all cases, whether suspicion arises or otherwise. The suspected person, if any, is imprisoned and tried; and the settlement of the claim, if in respect of property of the accused, is suspended while all this takes place.

GOTTINGEN.—An ancient city in Hanover, containing a University of European renown. From the various Professors of this University have proceeded from time to time many excellent treatises on Marine Ins. [GERMANY.] [MARINE INS., HIST. OF.]

GOTTSCHALK, F., Copenhagen.—He travelled for several years for the purpose of extending the agency connexions of the *Northern*, and in that period visited Mexico, the West Indies, and San Francisco.

GOUDARD, CHEVALIER AUGE, of Montpellier.—The reputed author of a work pub. in 1757, or earlier: *Les Intérêts de la France mal Entendus*, in which he opposed the practice of Marine Ins. [MARINE INS., HIST. OF.]

GOURAUD, MONS. CHARLES.—"Docteur de la Faculté des Lettres de Paris," published in Paris in 1848: *Histoire du Calcul Probabilités depuis ses Origines jusqu'à nos Jours*, wherein he traces the progress of the science from its origin up to the date at which he wrote.

GOURLIE, MR.—Sec. in Belfast for the *Scottish Widows* since 1868. For some seven years previously, he had been Inspector of Agents for the same Co.

GOURMAND.—A greedy or ravenous eater; a glutton. Also a luxurious feeder, or one assumed to be learned in varieties of food, and its culinary processes.

GOUT (from the Latin, *a drop*).—A term derived, like Rheumatism, from the humoral pathology, and suggesting (in accordance with an old medical theory) the *dropping* of a morbid fluid into the joints. The disease presents two varieties:

1. *Regular Gout.* A specific form of articular inflammation, invariably accompanied with uric acid in the blood, and the deposition of nitrate of soda in the affected tissues.

2. *Irregular Gout.* The same specific inflammation of non-articular tissues, or disturbance of the functions of various organs, accompanied with the same abnormal state of the blood. There are also local varieties of each of these forms.

Definition.—A good popular definition of Gout appears to be: A constitutional disease, occurring by paroxysms. It consists in an inflammation of fibrous and ligamentous parts of the joints, and almost always attacks first the great toe, next the smaller joints, after which it may attack the greater articulations. It is attended with various sympathetic phenomena, particularly in the digestive organs. It may also attack internal organs, as the stomach, the intestines, etc.—*Dunghison.*

Gout is a common disease among the higher classes of society, especially among those who indulge in the luxuries of the table, or inherit a disposition to attack. Females are much less subject to it than males. . . . The first symptoms of its attack are those of dyspepsia and irregularity of the bowels, low spirits, and some fever and restlessness; but these often pass unobserved, till the patient is roused in the night by violent pain in some part of the leg, generally in the vicinity of the great toe, and of one foot only; there is much throbbing and uneasiness, with more or less swelling and inflammation, and the least motion commonly produces great increase of suffering. After some hours the pain and fever abate, perspiration comes on; the patient falls asleep, and awakes comparatively

easy. These fits or paroxysms are apt to return at intervals, and often every evening; but they decrease in violence and at length go off, frequently with some decided increase of perspiration or other evacuation.—*Brande*.

We have given the preceding popular account of this malady, because persons sometimes suffer from these symptoms without at first knowing their true significance.

This has in all ages been a disease of the rich, and one from which the poor are almost wholly exempt. Martial, addressing a slave, and showing how much better his condition is than his master's, continues in a strain which has been rendered as follows:

If you still dread the horrid *cat*—your master has the gout;
And could he say farewell to *that*—would gladly bear the knout.

The early dramatists turned the victims of gout to very good account frequently. Gay, in his "Fables," has the following:

Next *Gout* appears, with limping pace,
Which often shifts from place to place:
From head to foot how swift he flies,
And ev'ry joint and sinew plies;
Still working, when he seems suppress,
A most tenacious, stubborn guest.

Dr. Hennen, in his *Medical Topography of the Mediterranean*, on finding a single case of gout among the military hospital returns, calls it a rare, though not a unique instance.

We have to deal with the disease in a more practical aspect, in view of pointing out—1. How it may be most readily discovered in its incipient stages. 2. What its effect upon the duration of life is.

1629.—The causes of death in the Metropolis began to be returned to the Co. of Parish Clerks this year, but they were not pub. in the Ann. Bills. A special Bill was pub. after 1656, which, however, gave the results for the years 1629–36, and also for the years 1647–56, making 18 years in all (with a break of 10 years in the centre). By this Bill the deaths from gout are shown to vary from a minimum of 2 in 1629, to a maximum of 12 in 1649—the average number being about 7 p.a.—See 1729.

1661.—Graunt, in his *Observations on the Bills of Mort.* pub. this year, says: "The gout stands much at a stay, that is, it answers the general proportion of burials: there dies not above 1 in 1000 of the gout, although I believe that more die gouty. The reason is, because those that have the gout are said to be long livers; and therefore when such die, they are returned as aged."

1729.—The deaths from gout returned in the B. of Mort. for the Metropolis this year gave the total of 43.

1800–19.—In the mort. experience of the *Equitable So.* for the 20 years embraced in this period, out of 1930 deaths occurring during 151,754 years of insured life, only 26 were attributed to gout. Of these 1 occurred between the ages 30 and 40; 4 between 40 and 50; 4 between 50 and 60; 11 between 60 and 70; and 6 between 70 and 80.

1826.—The *Atlas Assu. Co.*, in its instructions to agents, pub. this year, had the following:

Gout. If it be declared that the party has had the gout, the Sol. is to ascertain and report—1. When the gouty symptoms first appeared. 2. What part of the body was affected. 3. How often the attacks of gout have occurred during the last 3 years.

1857.—Ward, in his *Medical Estimate of Life for Life Assu.*, pub. this year, says:

Special inquiry is to be made as to whether the party has had certain diseases which affect more immediately the value of life. . . .

Gout. The having suffered from an occasional attack of this disease does not materially affect the value of any life; although the dangers of retrocedent gout, and the fact that the disease goes on increasing in force, and frequency of manifestation, and so ultimately affects the constitution, would seem to indicate some additional risk. . . . It must be remembered, however, that deaths from retrocedent or suppressed gout would be represented under different titles, and that consequently the statistics in question [those of the *Equitable So.*] do not fairly represent the risk. When an individual is a great victim to gout, and has had severe attacks in the stomach, or suspicious head or chest symptoms, it will be better to decline the risk. In a gouty person, who is a free liver, and of sedentary habits, the risk is of course increased.

1859.—Dr. Garrod, M.D., pub.: *The Nature and Treatment of Gout*, which, from his repute in regard to this disease, attracted much attention. He confirmed the results arrived at by Sir C. Scudamore's analysis of 522 cases, showing the hereditary influence to prevail in more than one-half.

1860.—The deaths from gout in E. and W. this year were, males 212; females 56. Dr. Farr says hereon (23rd Rep. R.G. p. 337), "Gout is not always the consequence of over-feeding; but the excesses in eating and drinking of men at public dinners and elsewhere sufficiently account for this excess of mort. by gout, representing a still greater excess of suffering from the same malady."—See also 1865, 1869, and 1871.

The mort. experience of the *North British Ins. Co.* for the 37 years 1823–60 gives 6 deaths as arising from gout. Of these the average duration after acceptance was 8 years and 1 month. The average expect. had been 19.11. The per-centage on total mort. was .46.

1865.—The deaths from gout this year in E. and W. were 361; and said Dr. Farr, "The deaths from this cause increase every year." Ten years previously (1856) they were 260. He adds (28th Rep. p. 177):

It is quite certain that few of its victims belonged to the selected classes—to the *magni reges, dynasta exercituum, classiumque duces, philosophi, alique his similes*. Yet gout has infected some

of the ablest men in England, and there is perhaps some connexion between the phosphorus abounding in the brain and the excess of phosphoric acid in the blood of the gouty before a paroxysm. *There is this peculiarity in gout: it is five times as common in men as in women, and it is very rarely fatal in either men or women under 35 years of age.* The greatest number of deaths (of 96 men, of 19 women by gout) occurs at the ages of 65-75.

Dr. Mann's *Contributions to the Medical Statistics of Life Assu.*, pub. this year, contains the following (p. 119):

The influence of *Gout* upon the duration of life cannot be rightly estimated by looking at the reports of deaths, either in the lists of the Reg.-Gen. or in the lists of our Life Assu. Offices. . . . It is in its influence in *indirectly* producing fatal results, which appear in our lists of mort. under the names of Apoplexy, Paralysis, Diseased Heart, Diseased Kidney, and Asthma, that we should form a more correct estimate of the fatal tendencies of Gout.

Nor do we arrive at a complete view until we also reckon the influence of gouty dyspepsia, and of the calculous forms of disease—especially those consisting of uric acid formations—in lessening the general powers of the body to resist disease, and to recover from its attacks. Whatever be the form of disease, medical or surgical, the gouty diathesis serves to increase its intensity, and to prolong its duration.

He proceeds to say that sometimes gouty persons reach old age. He could recollect patients who had passed 80 years of age. These were generally persons of temperate, regular habits, and who suffered from crippled joints of the fingers especially, and from the deposits called chalk-stones. He proceeds:

I remember an aged couple who had, each of them, a pill-box filled with these, which had exuded from their own joints. It does not, however, always happen that these deposits are harmless. I have known of instances in which suppurative has arisen from their presence more than once in the ankle-joint, and once in the knee-joint.

Nor does it happen that the children of gouty parents who have been long-lived inherit the longevity as well as the gout. More frequently I believe the case is the reverse.

He asks then how, practically, medical examiners are to deal with cases in which gout—"a disease in which the data seem so variable and inconstant"—occurs in the personal history; and he answers his own inquiry in this form:

It hardly seems practicable to lay down any invariable general rule. Probably the most correct course will be to study each case in itself, and in its family connexions, as if it were a case *sui generis*. In looking at the individual we should consider the *age* at which the disease first began to show itself; *the frequency of the attacks*, their *severity*, and their *continuance*; and especially the presence or absence of any of those indirect results of gouty action on those organs which are essential to the functions of life: *i.e.* the stomach (especially also its auxiliary the colon), the lungs, the heart, the kidneys, and the brain, which involve danger to life. In looking at the family hist., we should notice whether the correlatives of gout, such as asthma, apoplexy, paralysis, and calculus, have often been fatal.

To the study of the *physique* we must add that of the *morale*. Upon the latter, the dangerous development of the former will generally depend. Prob. the *key* to the exceedingly variable results of gout in different individuals of apparently similar constitution, and similar circumstances, will be found in the study of the moral, rather than of the purely physical and material relations of the cases under consideration.

The powerful influence of hereditary predisposition is strongly marked in the history of gout. I have rarely met with instances of gout in private practice which were not distinctly traceable to this source.

This is prob. the most able summary, from a practical point of view, of the bearing of gout upon Life Ins. which has yet appeared. The *British Empire Mut.*, for which Dr. Mann was chief medical adviser, had no death from gout in the first 10 years of its experience.

1868.—Dr. James Begbie, M.D., F.R.S.E., pub. a Rep. *On the Causes of Death in the Scottish Widows Fund*, etc., wherein he shows (F. III.) the causes of death of the members of that So. from 1815 to 1866. This T. gives 20 deaths from gout, viz. 2 between ages 30 and 40; 1 between 40 and 50; 8 between 50 and 60; 5 between 60 and 70; 3 between 70 and 80; and 1 above 80. In a previous report (1860, p. 22) Dr. Begbie had said, "The habits of the intemperate favour the development of gout and other blood-poisons, engendering diseases both of the vascular and nervous systems, and in this way bear a part in loading the cols. of our Mort. T." There is a later Rep. pub. in 1874, which however contains nothing requiring special comment.

We may here remark that the Scottish offices generally—that is, such of them as have pub. their mort. experience—appear to have a very small number of deaths attributed to gout. Has the national beverage, whisky, any bearing upon this circumstance?

1869.—Dr. Farr, in the 32nd Rep. of Reg.-Gen., commenting on the deaths of this year, says:

Gout is, like syphilis, becoming more fatal; the deaths regis. to its account are rapidly increasing, and loudly proclaim the necessity of beginning at least some reform in the dinners of the wealthier classes, if they would avoid not only the pangs of this dreadful disease, but its disorganizing ravages on their vital organs.

Some of his following remarks have already been quoted under title GLUTTONY; he adds: "Women have hitherto and we may hope will still continue to set men good examples; for the deaths of 352 men, and of but 96 women, are referred to gout."

Dr. J. Adams Allen, in his *Medical Examinations for Life Ins.* 5th ed. pub. this year (1869), says:

Gout of chronic character, and particularly if in any degree hereditary, disqualifies. But it does not follow that all sore toes are gouty. Analysis of individual cases is indispensable. The habits of life and surroundings will attract the attention of the examiner. The dyspepsia and general *malaise* discoverable by examination are of more significance to the cautious medical agent [examiner] of the Co.

1871.—Dr. Farr returns to the subject in the 34th Rep. (abstracts for this year) :

One of the diathetic diseases, Gout, is more fatal than *delirium tremens*, and in its various forms is sometimes entered under disguised names. Excess in eating among the higher classes is unquestionably little less fatal than excess in drinking; and the two excesses cannot be too much guarded against by the aspirants after longevity.

1872.—Mr. Meikle, in his *Observations on the Rate of Mort. of Assured Lives, as Experienced by Ten Assu. Cos. in Scot. from 1815 to 1863*, says (p. 50) : “The mort. on lives charged extra for gout is greatly in excess of that for any other infirmity.”

1874.—Mr. Geo. Humphreys, M.A., read before the Inst. of Act. a paper : *On the Practice of the Eagle Co. with Reference to the Assu. of Lives classed as Unsound, and on the Rates of Mort. prevailing amongst the Lives so classed assured with them during the 63 Years ending 30 June, 1871*. The total number of cases of gout for which an extra prem. had been charged was 418. The ages at which the lives had been insured, and the add. or rating up at these several ages had been as follows : 20 to 29 years, 16 cases, rated up 6 years ; 30 to 39 years, 71 cases, rated up 5 years ; 40 to 49 years, 170 cases, rated up 4 years ; 50 to 59 years, 123 cases, rated up 3 years ; and 60 to 69 years, 38 cases, rated up 2 years. The average duration of the pol. had been 10 years. In the discussion which followed the paper much curious information was elicited.

Same year Dr. E. H. Sieveking, M.D., pub. : *The Medical Adviser in Life Assu.*, wherein occurs the following passage :

Gout, again, which largely impairs life, is, like rheumatism, undoubtedly hereditary, and has long been recognized as possessing this character : it is one of those heirlooms that people are even disposed to boast of, on account of a certain air of respectability that attaches to family gout. Here, thanks to the labours of Dr. Garrod [see 1859], more than in any other so-called blood-diseases, we have direct evidence of the existence of an abnormal constituent in the blood, leading us to hope that the same line of research to which Dr. Sanderson and other men of eminence in this country and abroad are devoting their attention, may eventuate in a more ready recognition of the poison or anomaly that underlies most diathetic conditions. . . . But the gouty diathesis exhibits itself in many patients in whom a *bonâ fide* attack of gout has never occurred—in degenerative conditions of the heart, blood-vessels, and secretory organs, as well as in the nervous system, which must not be lost sight of by a medical examiner for ins. A great deal must be left to his individual judgment and experience, as, although it is usual to take off 3 years from the expect. of life of a person who is shown to have had gout, we have not sufficiently precise data to estimate the hereditary influence in those who escape the regular paroxysm, but are found to possess indications of impaired vitality derived from gouty predecessors.

1877.—Turning to the other side of the Atlantic, the prevalence of gout in a direct form there seems very slight. In the *Mortuary Experience of the Mutual Life*, pub. this year, and which appears to embrace a period of 34 years, from 1843 to 1876, in this large So. the deaths from gout are returned as numbering 7 only, viz. 1 between the ages 30 and 39 ; 1 between 40 and 49 ; 3 between 60 and 69 ; 2 between 70 and 79 ; or, speaking more generally, 2 deaths under 60 years of age and 5 above. Of these 2 died under 5 years of ins., and 5 above that period. Only 2 had suffered from gout previous to ins. ; and in none of the cases was there any admission of hereditary tendency. The medical officers of the So. who prepared this Rep. say :

The numbers are too few for any useful analysis. . . . There are, unfortunately, no means of ascertaining the injury or the deaths caused by gout indirectly, either by the kidney disease, or the general deterioration of the system, that it may produce—conditions which are far more important than the knowledge of the few cases in which the gout is the direct cause of death.

GOUT, DEATHS FROM, IN E. AND W. [Class, CONSTITUTIONAL ; Order, Diathetic].—The deaths from this cause show a steady tendency to increase. The following are the figures for 10 consecutive years : 1858, 245 ; 1859, 238 ; 1860, 268 ; 1861, 247 ; 1862, 284 ; 1863, 248 ; 1864, 309 ; 1865, 361 ; 1866, 359 ; 1867, 377 ; thus increasing from 13 p. million of the pop. living in 1858, to 14 in 1860, 17 in 1865 and 1866, and 18 in 1867. Over a period of 15 years ending 1864, the deaths had been 13 p. million.

The deaths in 1867 were : males, 290 ; females, 87. Of the males 1 died between 15 and 20 ; 20 between 35 and 45 ; 50 between 45 and 55 ; 86 between 55 and 65 ; 87 between 65 and 75 ; 44 between 75 and 85 ; and 2 between 85 and 95. Of the females 3 died between 25 and 35 ; 4 between 35 and 45 ; 11 between 45 and 55 ; 26 between 55 and 65 ; 28 between 65 and 75 ; 14 between 75 and 85 ; and 1 between 85 and 95.

GOUT, PRACTICE OF INS. OFFICES CONCERNING.—The practice of the British Life Offices in surcharging for Gout has been by no means uniform. The *Equitable* So. on its estab. made a charge of 12½ p.c. on the prem. at all ages. In 1781 it reduced the extra charge to 11 p.c. on the prem. Many other offices added 10 p.c. extra to the prem. for all ages.

In other cases the extra charge has been made by rating up the age—see the practice of the *Eagle* as shown in the preceding historical outline. Some offices have regarded 10 years as not too large an addition.

It is doubtful whether even yet statistics can be made available towards rendering the practice of offices uniform. We have brought together in the preceding summary such reliable facts as are available.

In the Law Courts the following decisions have been arrived at.

1780.—The British case of *Willis v. Poole* was the earliest wherein the question of Gout and its influence upon the duration of human life was raised. The details have already been given under title GOOD HEALTH, this date.

1863.—In the British case of *Fowkes v. Manchester and London Life*, the facts were

these. The proposer was asked, "Have you ever been afflicted with Gout?" and answered "No." It turned out that before the date of the proposal [application] the proposer had suffered from a slight attack of suppressed gout. The proposal contained declaration and warranties as to the truth of statements made in the usual forms:—*Held*, that this answer was not untrue if he had not been sensibly afflicted with gout, but merely had some symptoms which a medical man could detect as denoting the presence of gout in the system. Lord C. J. Cockburn, in his charge to the jury, thus expressed himself:

As to the first answer, to the question whether he had ever been afflicted with gout, no doubt it must be considered with some reasonable latitude, and the answer would not be false merely because he had had some symptoms which an experienced medical man might see indicated the presence of gout in the system. You will prob. consider whether there was gout in a sensible appreciable form; and in considering that question you will bear in mind that the medical man himself described the only attack which preceded the pol. as the slightest possible case of gout; and that there is no positive evidence that the deceased knew that he had the gout. [3 F. and F. 440.]

[DISEASED AND IMPAIRED LIVES.] [EXTRA PREMS.] [GOOD HEALTH.] [HEREDITARY DISEASES.]

GOUTY CONCRETIONS.—These (*calculi*) form in the joints of gouty persons, especially of the toes and fingers, and are frequently, from their appearance, called *chalk stones*. They are chiefly composed of uric acid and soda.—*Dr. Mann*. See GOUT, 1865.

GOUTY KIDNEY.—A term applied by Dr. Todd to one of the most inveterate forms of albuminaria resulting from chronic gout.—*Hoblyn*.

GOVERNUR [believed to be an assumed name].—Pub. in the U.S. in 1852, *Remarks on Life Ins.*

GOVER, WILLIAM SUTTON.—Man. Director of *British Equitable*, of which office he was the founder. In 1847 he had aided in founding, and became the Sec. of the *British Empire Mut.*, from which office he seceded in 1854. He had also founded the *British Empire Fire* in 1848, of which office he was Sec. down to 1854. Mr. Gover has taken an active part in the municipal affairs of the City of London, and is a prominent member of the London School Board. In 1877, on retiring from the chairmanship of the Markets Committee of the City he was presented with a very elegant tea and coffee service.

GOVERNESSES' BENEVOLENT INSTITUTION.—Founded in 1843, and since incorporated by Royal Charter. The objects of the Asso. are (*inter alia*) to purchase Government Annu. for the benefit of ladies in any way connected with education. It has no further immediate association with Life Ins.; but its annuity feature has been productive of much good.

GOVERNMENT ANNUITANTS.—See GOV. LIFE ANNUITANTS, MORT. T. FOR.

GOVERNMENT ANNUITY AND INS. SCHEMES.—See GOV. INS. AND LIFE ANNU. PROJECTS GENERALLY.

GOVERNMENT ANNUITY TABLES.—Mr. Finlaison's T. are frequently so called. See GOV. LIFE ANNU., MORT. OF.

GOVERNMENT EMPLOYÉS MUT. GUARANTEE ASSO. LIM.—This Co. was projected in Lond. in 1870, with an authorized capital of £50,000 in 50,000 shares of £1. Its object was to provide a system of Mut. Guar. Ins. for Gov. Employés. It did not go forward. Mr. E. E. Scott was the projector.

GOVERNMENT [GOVERNMENTAL, MUNICIPAL, NATIONAL, AND STATE] INS. AND (LIFE) ANNUITY PROJECTS GENERALLY.—The number of schemes, which have at various times, and in various countries, been projected for placing under the control of the Gov.; as also of arguments which have been used to the effect that it is one of the proper functions, not to say duties, of the Gov. to take control of the ins. interests; probably far exceed the expectations of those who have given but casual attention to the question. It is our present purpose to survey these varied proposals, and the arguments by which they have been supported; as also the reasoning by which they have been refuted; and we trust we may be able to render our task reasonably complete. It may be hoped also that this labour, when performed, may be of service in leading to the formation of sound views upon the question—which is one of undoubted importance.

1554.—Holland.—The first instance known of any Gov. raising loans by the sale of *Life Annu.* occurred at this date. Holland was at war with France. The States granted 200,000 guilders to supply the expenses of this war. Of this sum one-half was raised by the sale of *life annu.* at 16½ p.c.; and redeemable annu. at 8¼ p.c.—we do not know the relative proportions actually issued.

That Holland continued to have dealings in *life annu.* as a branch of National Finance will be seen later—especially under date 1671.

1585.—Schleswig-Holstein.—At this date there were existing in the Duchies, *Brandgilden*—supposed to have descended from earlier Frith-gilds, which took the shape of local mut. *Fire* offices on a Municipal or State plan. [GILDS, this date.]

1591.—Hamburg.—A *Fire Ins.* Asso. under the designation of the *Feuer Contract* was existing in this city, worked on the municipal plan; and was prob. the precursor of the *Fire Cassa* of that city. [HAMBURG, CITY OF.]

1609.—Oldenburg.—We have already given under FIRE INS., HIST. OF, at this

date, a complete outline of the scheme which was submitted to Count Anthony Gunther von Oldenburg for shaping *Fire Ins.* into a scheme of State Finance. This was the first time that *Fire Ins.* was put forward in the practical shape of affording an indemnity in respect of a specific prem. or assessment. Similar or modified schemes of State *Fire Ins.* have been adopted in *Baden* (Duchy of), *Bavaria*, *Denmark*, *Hamburg* (City of), *Holland*, *Poland*, *Prussia*, *Saxony*, *Switzerland*, and *Wurtemberg*—but the dates of these several introductions are not known with precision. All that can be learned upon the point has been or will be stated under their respective titles. [FIRE INS., MUNICIPAL AND STATE.]

1638.—*London.*—The “propositions” of Wm. Ryley, as set forth in his petition to Charles I. at this date, and given in extenso in our *Hist. of Fire Ins.*, point to a system of Municipal Ins. See 1660.

1660.—*London.*—The notion of Municipal *Fire Ins.* was mooted this year by the Common Council of the City of London [see 1638]: for in reply to a scheme of *Fire Ins.* commended to the attention of the City authorities by Charles II., the Common Council, rejecting it, replied that they thought it unreasonable for private persons to manage such an undertaking, or that any but the City should reap the benefit of the enterprise. [FIRE INS., HIST. OF, this date.] See 1668.

1662.—*England.*—There was a proposal made at this date that the Customs Duty should be augmented into the shape of a prem. which should cover the ordinary risks of *Marine Ins.*, including Capture by Pirates: with an indirect intimation, that Customs Duties originated in an undertaking on the part of the Gov. to protect the National Commerce from the depredations of Pirates. This prob. is something like a true view of the case: although the precise fact (if it ever was one) has become obscured with the dust of ages.

In that quaint treatise, *Taxes and Contributions*, pub this year, there is the following (p. 63):

Sometimes the State is or may be Common Ensurer, either upon the danger onely of Enemies at sea, according to the supposed primitive end of our Customs in England, or else of the casualties of the Enemy, Weather, Sea, and Vessel taken together.

See MARINE INS.

1668.—*London.*—De Laune’s scheme of *Fire Ins.* placed before the Corp. this year—two years after the “Great Fire”—appears to have been designed as a project of municipal finance. [FIRE INS., HIST. OF.] See 1675.

1671.—*Holland.*—The States General resolved this year to make dealings in *Life Annuities* a much more extended element in the scheme of National Finance. The important results which flowed from this in regard to the development of the Science of Life Contingencies have already been set forth in detail under title ANNU. ON LIVES, HIST. OF. The part which the famous Grand Pensionary, John De Wit, played therein, is known to all students of history. From his treatise we learn some interesting facts regarding the course of dealing which had been pursued in this matter.

He says: The person who, for 16 florins, has purchased 1 florin p.a. on a young, vigorous, and healthy life, has made a remarkably advantageous contract. This is 16 years’ purchase, without distinction of age. And he supports his reasoning not only by mathematical demonstration, but by showing that: My Lords the States of Holland and West Friesland have, in the course of a few years, not only increased the charge for Life Annuities from 11 years’ purchase to 12 years’ purchase, and from 12 years’ purchase to 14 years’ purchase; but that these annuities have been sold even in the present century, first at 6 years’ purchase, then at 7 and at 8; and that the majority of all life annuities now current, and at the country’s expense, were obtained at 9 years’ purchase. In this manner he shows the progress which was being made towards a correct understanding of the value of life annuities in Holland.

1675.—*London.*—Mr. Deputy Newbold’s proposals before the Corp. of London this year proceed directly upon the assumption that the finances of the City are to be benefited by the practice of *Fire Ins.* The City entertained the proposal on this basis. The Mayor (Sir Robt. Clayton) desired that the project should be managed by the Chamber of London. At a later period Mr. Newbold changed his ground in favour of a joint-stock undertaking. See 1681.

1681.—*London.*—The Corp. of the City did actually commence an undertaking of *Fire Ins.*, as a scheme of municipal finance; but desisted because it was believed that the charter of the Corp. contained no powers for any such purpose; and proceedings were threatened. [FIRE INS., HIST. OF.] See 1700.

1692.—*England.*—The first attempt of the English Parl. to raise its national loans by means of *Life Annu.* was made this year. The scheme has some special Tontine features which gave it an increased interest. Full details have already been given under ANNU. ON LIVES, HIST. OF, this date; while the duration of the lives of the nominees of this Tontine formed a portion of the data from which the *Gov. Life Annuitants Tables* were constructed by Mr. Finlaison in 1829. [GOV. LIFE ANNUITANTS, MORT. OF.]

From this time onwards various National loans were raised on the basis of Life Annu. [ANNUITIES ON LIVES, HIST. OF.]

The above scheme was amended and enlarged in 1694. See 1718.

1697.—England.—De Foe, in his *Essay upon Projects*, pub. this year, says: “As to any further improvement to be made upon assu. in trade, no question there may, and I doubt not but on payment of a small duty to the Gov., the King might be made the general insurer of all Foreign Trade.” He seems here to refer to Marine Ins.

1700.—London.—About this date, or a little earlier, Mr. Alexander Cutting laid before Parl. a scheme for the protection of all houses within the B. of Mort. from Fire, by means of a rate levied upon the same. The scheme embraced a Fire Brigade, Salvage Corps, and mode of compensating for property destroyed, all under one head. It aimed at abolishing Fire Ins., as a bus. of individual enterprise, in favour of a general municipal scheme. This was about the last proposal of the kind proposed to be applied to the metropolis.

1716.—London.—It may be desirable to state that a scheme set on foot this year under the title of the *Public Treasury to grant Annu. for Life* was not in any way a governmental project. For details see ANNU. ON LIVES, 1716 and 1720.

1718.—England.—There was pub. a detailed exposure of the frauds alleged to have been committed upon the Gov. in connexion with the Tontine Annu. scheme of 1694. Full details will be found under ANNU. ON LIVES, 1718.

1720.—Saxony.—A scheme of State compulsory Fire Ins. was intro. into this Kingdom this year, and has continued in force. Financially it can hardly be said to have been a success—fires have been very numerous.

1737.—England.—There was pub.: *A Proposal and Scheme for the Gov. raising by Subs. Five Millions of Money*; the proposed purpose for which was the paying off therewith a like sum of the South Sea Annuities, and to grant in lieu and instead thereof annuities for and upon 50,000 single lives, chiefly (if not exclusively) of natives and inhabitants of Gt. Brit. The mode of distribution of these proposed annu. was in the form of a Lottery, the tickets being £100 each. There is nothing to identify this as an actual Gov. project; but if the idea had taken, it is quite prob. the Gov. of the day would have gladly adopted it. See 1746.

1742.—Silesia.—A system of compulsory State Fire Ins. was introduced into this Province at this date, and has been since continued.

1746.—England.—There was a scheme of Exchequer Annu. set on foot this year in connexion with a State Lottery, under the authority of 19 Geo. II. c. 12, of which all necessary details will be found under ANNU. FOR LIVES, this date. [LOTTERIES.]

A second issue of Exchequer Annu. issued this same year was subscribed to very largely by the Dutch, on the lives of young female nominees—a knowledge of the teachings of the science of Life Contingencies, as propounded by their countryman Kersseboom, being thus turned to practical account. These lives were included in one of Mr. Finlaison's Obs. in 1829. GOV. LIFE ANNUITANTS, MORT. OF.

1750.—Brunswick.—A system of compulsory State Fire Ins. was introduced into this Duchy at this date, and has been since continued.

1753.—Hanover.—A system of compulsory State Fire Ins. was introduced into this kingdom at this date, and still continues in practice.

1763.—Norway.—A system of compulsory State Fire Ins. was introduced into this kingdom at this date, and has been since continued.

1765.—England.—A plan was formed for funding Navy and Victualling Bills, by allowing proprietors to subscribe them into 3 p.c. stock, or 3 p.c. Life Annu., with benefit of survivorship. [TONTINE ANNU.] The latter were divided into 6 classes of £50,000 each, making in the whole £300,000; but a small portion only was sub. [TONTINES.]

1773.—England.—The first proposal for a scheme of Gov. Ins. apart from National Loans occurred this year, when Sir Geo. Savile and Mr. Dowdeswell introduced and carried through the Ho. of Commons a measure for *Parochial Annuity Sos.*, intended to operate as an encouragement to journeymen manufacturers, handicraftsmen, household servants and others, to industry and frugality, by offering them a safe and convenient method of employing the money they could save out of their earnings in the purchase of *deferred life annu.*, payable at such periods of life as they might elect for retirement from the more active labours of their callings. The scheme was thrown out of the Ho. of Lords mainly on the opposition of Lord Camden. The prevailing idea of this and many other similar schemes which followed was to lessen the poor-rates, then grown very oppressive. A full outline of this and other like projects will be found under title POOR, INS. FOR THE. The idea was in part attempted under some of the later SAVINGS BANK ACTS. See 1807.

The first of several schemes of *Tontine Annu.* was set on foot in *Ireland* this year under authority of 13 & 14 Geo. III. c. 5 (Irish Stat.).

1777.—*Würtemberg*.—A system of compulsory State *Fire Ins.* was adopted into this Duchy at this date, and is still in practice.

1778.—*Denmark*.—A system of municipal *Fire Ins.* was introduced into *Copenhagen*, and at later periods into other cities in this kingdom. See COPENHAGEN; and DENMARK.

1785.—*England*.—Sir John Sinclair, in his *Hist. of the Public Revenue*, first pub. this year, recounted, amongst the means which had been employed to raise the revenue, the sale of *Life Annu.*; but did not judge favourably of the system. See 1803.

1787.—*England*.—The Great English Tontine (as it was designated) was set on foot this year as a scheme for the sale of *Life Annu.* It was not a success. See ANNU. ON LIVES, HIST. OF.

1803.—*England*.—Sir John Sinclair, in a new edition of his *Hist. of the Public Revenue of the Brit. Empire*, advocated a system under which the public revenue should parti. in the profits of *Fire Ins.* [FIRE INS., HIST. OF.]

1807.—*England*.—The project of 1773 was revived in an altered form this year. It came before Parl. in the shape of "a Bill for Estab. a Fund and Assu. Office for Investing the Savings of the Poor." Under its provisions it was intended to estab. in London or Westminster an office to be called *The Poor Assu. Office*. Commissioners were to be appointed by the Crown to direct the management; the classes sought to be benefited were those who subsisted by the wages of labour; and the transactions were to be carried on through the medium of the *Post Office*. [LIFE INS., this date.] [POOR, INS. FOR THE, this date.] See 1864.

Frankfort.—There was a system of State *Fire Ins.* prevailing in the Grand-Duchy of Frankfort at this date—prob. much earlier in the ancient city of this name—of which we have given some details under FRANKFORT. See 1815.

1808.—*England*.—It was during this year that the practice of calling in the aid of *Life Annu.* as a system of National Finance was resuscitated and placed upon a more practical footing than it had theretofore assumed. The regulation of their issue was placed under the control of the Commissioners for the Reduction of the National Debt; the aid of science was called in for the preparation of the T.—unfortunately these were based upon the *Northampton Mort.*; and the whole measure was shaped as being an important State operation. The Tables employed for the purpose were calculated by Mr. Wm. Morgan, then Actuary of the *Equitable So.*; although the actual adviser of the scheme was understood to be Mr. Francis Baily. For the details of the scheme itself, as also for an account of the serious loss which resulted to the nation from its adoption, we must refer the reader to our art. ANNU. ON LIVES, HIST. OF, this date, and 1827-9. The measure was slightly amended in 1812, but only in details. See 1817.

1815.—*Frankfort*.—This ancient free city, with 8 villages round it, was this year formed into an independent State. A system of State *Fire Ins.* was inaugurated, mostly upon the same lines as existed in 1807. See 1857.

1817.—*England*.—Some important modifications were made in the Gov. scheme of *Life Annu.* Under the original Act of 1808 the annu. could simply be obtained in exchange for Consols or Bank Annu.; they might now be purchased for money. The age of nominees, which in the original scheme had been limited to those of 35 or above, was now lowered to 21. Other stocks, as the 4 and 5 p. cents., were permitted to be exchanged; and deferred annuities were granted. In consequence of these changes, the trans. were multiplied; but the scheme was still far from becoming popular. In the 11 years terminating 1828, the payments for annu. sold only reached to £14,000 p.a. See 1829.

1829.—*England*.—A Select Parl. Committee sat to consider a proposal of Mr. Cadogan Williams in favour of a much larger dealing in Gov. *Life Annu.* than had theretofore taken place. The Committee suggested that the Savings Banks might be made available for popularizing such a measure. This recommendation was not carried into effect until 1833.

Same year the Gov. scheme [of 1808-17] was remodelled. The limit of age of nominees was reduced to 15 years, and the higher ages eliminated, and the amount which might be received in the purchase of a deferred annu. was reduced to £5 p.a. The nominees were to reside in the U.K. New T. of Mort. were to be used in the calculation of the Annu.—ANNU. ON LIVES, HIST. OF.

Under the Bill for effecting these changes, as originally drawn, there was a scheme for enabling the Gov. to assume the bus. of *Life Ins.* This was in the covert form of authorizing the Commissioners of the National Debt to grant annu. upon the continuance of single or of joint lives, or for any limited term of years in reversion, after any other single life, or after any two joint lives, etc. A further part of the Bill proposed making

it lawful for the Commissioners to accept any sum of money *by the year*, in add. to their powers to accept trans. of Stock as the consideration for such annu. Under cover of these technical expressions the Commissioners were to be empowered to receive annual premis. for ins. as well as single premis. The measure did not pass in this form—all the parts of it leading up to Life Ins. dealings being in the end omitted. Mr. Fredk. Hendriks' view of this matter is well and fully expressed in a note to his most able paper: *On the Financial Statistics of British Gov. Life Annu.*, read before the Statistical Soc. in 1856, and printed in the journal of that Soc. [vol. xix. p. 325] as follows :

Those unused to the theory or practice of Ins. might not, at a first sight of the Bill, have seen that the phraseology of its provisions was intended to intro. Gov. Life Ins. under the guise of annu. in reversion. But the truth was sufficiently obvious to those who applied a further scrutiny; and it appears that some representation was made to the Gov. to the effect that if, for example, an individual wished to insure any life for say £10,000 with the Gov., he could carry out this object by purchasing from the Gov. an annu. in reversion of £5000 p.a. for two years certain—such an annu. to commence on the decease of the life it was desired to ins. On the other hand, by the assured exercising the option of paying his prem. ann., he was to be put in exactly the same situation as in an ordinary life ins. contract, with the one unimportant difference that, instead of receiving the sum insured in 3 months from the time of the decease of his nominee, as is the case in the usual practice of life ins., he would receive it from the Gov. in four half-yearly payments of £2500 each. In saying that this difference was an unimportant one, the fact may be proved: for assuming, as an example, that the Gov. obligation to pay an annu. of £2500 for four half years certain, would be a marketable security convertible into cash at say 4 p.c. discount, in such case all that the party insuring needed to have done to put himself in the same position, as in an ordinary contract of ins. payable at the end of 3 months from the decease, would have been to insure an annu. of £5216 p.a. for two years, *i.e.* four half years from the decease of the party insured; and this annu. discounted at the end of 3 months would have been just worth the £10,000 he desired to insure.

This may be regarded as a fortunate escape from a further national loss; for if the scheme had gone through, and the premis.—as in truth they would as the transaction was shaped—had been based upon *Finlaison's T.*, which he had just prepared in view of remedying the loss the Gov. had for some years been incurring upon Life Annu. contracts, the low rates would speedily have attracted a large bus., or a large amount of speculation, on which there could but have been a considerable disadvantage to the National Exchequer. See GOV. LIFE ANNU., MORT. T. FOR, 1829. This is to be regarded as the first attempted intro. of the bus. of Life Ins. by the Brit. Gov. See 1853.

1833.—England.—The dealing in Gov. Life Annu. this year received more direct encouragement under the provisions of 3 & 4 Wm. IV. c. 14. SAVINGS' BANKS AND PARISH SOS. might now issue deferred annu. to persons not under 15 years of age, and for sums not exceeding £20 nor less than £4, by way of annu. on any one life. *This was in truth the beginning of the modern Gov. Annu. system, as designed for the labouring and artisan classes.* See 1844, 1853, 1864.

1844.—England.—By an Act of this year [7 & 8 Vict. c. 83], the maximum of Life Annu. purchasable through the medium of the Savings Banks was increased to £30 (sec. 8).

1846.—Belgium.—A scheme was set on foot for placing the whole of the *Fire Ins.* bus. of this kingdom under the control of the State. The consideration was here entered upon in a systematic and bus.-like manner, after making inquiry concerning the results in other parts of Europe. The first Commission reported in favour of the scheme; the second against it. The circumstances are stated in detail under BELGIUM; as also under FIRE INS., MUNICIPAL AND STATE, at this date.

1848.—France.—An attempt was made by some of the members of the Provisional Gov. then just formed, to place the bus. of *Fire Ins.* under the control of the State. The ins. of buildings and personal movable property to be obligatory: but of merchandize and movable property belonging to trade, and of agricultural and cattle risks, to be optional. For further details, see FRANCE, sub-heading *Fire Ins.* It was understood that this was really only the first step in a scheme designed to absorb the entire bus. of *Ins. in all its branches*—the profits to be applied in remission of taxation.

The Editors of the (English) *Assu. Mag.*, reviewing this attempt, took occasion to offer the following obs. on *State Ins.* generally:—

A very little reflection, however, will suffice for coming to the conclusion that in such a matter it is the duty of Gov. to encourage the sound action of private Cos., but not to supersede them. The habits of prudence and foresight which have given rise to these Inst., and have strengthened and fostered them, are not the growth of compulsion. They arise from the influence of a few well-constituted minds, acting as the leaven on the general mass of society. They owe their success to the self-reliance and independence of character which induces an individual to provide for himself by laying by out of his superfluities at one time, to meet the reverses and calamities which may happen to him at another. *There can be no surer check to these just and honourable feelings than the conviction, that as he is taxed for such a provision, it is the affair of Gov., and not his own.* Nothing can be more disheartening to the prudent and careful, than to feel that their savings, frequently made with difficulty from the hard earnings of their daily toil, are lavishly expended to provide against casualties which others have been too imprudent or too thoughtless to reserve for; nor, on the other hand, can there be greater encouragement to indolence, to improvidence, and to vice, than a system which places the prudent and the reckless, the industrious and the idle, on the same footing. It may be granted that where no tendency to the better character can be found in a nation, the Gov. ought not to leave calamities which may affect the public unaverted till private enterprise steps in to relieve them. This, however, is a very different thing from taking out of the man, of the people inst. which they have themselves formed: which have proved a blessing wherever they have extended; and which, by their silent and gradual freedom of working, have effected what a system of compulsion could not accomplish, but may check or overthrow.

1849.—Italy.—About this date the Duchies of Parma and Modena took up the bus. of *Fire and Hail Ins.*, and conducted them as branches of State Finance; following the example of the Papal States a few years earlier.

1850.—France.—Louis Napoleon, very soon after coming into power, attempted to organize some scheme of provision for the working classes, to be conducted under the authority of, and upon the security of, the State. It has been said that this step was taken in consequence of many recommendations thereon made to the National Assembly. Accordingly, under the law of 10 June, this year, authority is given to the State to receive single payments or small sums, and guarantee the fulfilment of the conditions on which they are paid. The management is entrusted to the *Caisse des Depots et Consignations*, whose bus. it is to invest the proceeds in the purchase of *Rentes*. The deferred annu., which is to be the return for the deposit, is calculated according to the age of the depositor, and according to the age at which, between 50 and 65 years old, he is to begin to enjoy the proposed benefit. The return also varies according to its nature, as a simple annu. or permanent *rente*; the former ceasing with the life of the insurer, the latter descending to his children. The payment may commence at the earliest age. By paying 100 francs on behalf of a child 3 years old, an annu. may be assured, either of 149 francs to commence at 50 years of age, of 383 fcs. to commence at 60 years, or of 680 fcs. to commence at 65 years, to continue during the life of the recipient. An ann. payment of 10 fcs., from the age of 3 years, will insure either an annu. of 233 fcs., from the age of 50 years, or an annu. of 1100 fcs. from the age of 65 years. A lad is considered to work advantageously when 15 years old. By laying by, in the Government *Caisse*, 20 fcs. a year, or rather less than 3'75 pence p. week, he may insure a yearly pension of 212 fcs. (say £8 8s.) on attaining the age of 50; or, 1050 fcs., or £42 p. ann., if the commencement of his re-payments be deferred until he has attained the age of 65. Although this inst. is as yet unappreciated by the greater number of those for whose benefit it was estab., the payments made into the *Caisse des Depots* from 1851 to 1872 amounts to the sum of 157,589,486 fcs. This sum is increased by the arrears of *rentes* belonging to the *Caisse des Retraites* [founded 1856], amounting to 40,485,580 fcs., making a total of 198,076,067 fcs., or £7,923,040. This represents the ann. amount of 8,741,800 fcs., or £339,678, which is divisible among 56,067 recipients, giving an average of a little over £6 p. head. It seems from the figures that the distribution is to commence in the year 1901, and that the reception and investment of money forms the main function of the *Caisse* until that date. See 1856.

1853.—England.—The first step in the direction of Gov. *Life Ins.* was taken this year in the passing of the 16 & 17 Vict. c. 45, whereby the National Debt Commissioners were empowered to grant Ins. payable on death for sums not exceeding £100, but only with persons also purchasing deferred annu. ! The Commissioners were empowered to commute the sums so insured into annu. payable after the death of the insured to nominees.

Dr. Farr proposed an extended scheme of relief applicable to the whole community, by means of a Friendly So. scheme under Gov. control. The details of his plan we have given under FRIENDLY SOS., at this date.

1856.—France.—This year there was founded *La Caisse de Retraites pour la Vieillesse*, wherein life annu. are granted by way of provision for old age, on a scheme of the money deposited accumulating at 5 p.c. int. But as the rate on Gov. securities is only 4 p.c., an ann. loss is sustained by the operations. It is indeed said that the ann. loss to the Gov. has been considerable. The project underwent some modifications in 1864. It is said that there are 100,000 annuitants on the books. We do not understand, from the official reports, what is the precise relation of this scheme with that of 1850—except that this applies to classes not comprehended in the former project. See 1868.

1857.—Frankfort.—A State law was enacted placing the bus. of *Fire Ins.* upon a new footing. The scheme was not a success. The large fires of 1867 shook faith in the project, which was entirely abandoned in 1869. See title FRANKFORT for full details.

1858.—England.—About this date Dr. Wm. Farr pub. a "confidential" pamph. under the following title: *A System of Life Ins. which may be carried out under the Control of the Gov.* Its leading features were—1. That it would be equitable in its operations. 2. That it would afford the best security and be in the best condition to fulfil its future engagements. 3. Be well adapted to the wants of the people, as it would afford all the advantages of an Ins. Office, and some of those of a bank. 4. It might operate at less risk, less expense, and lower prems. than small offices. 5. It might also be made a considerable source of National Revenue. He proceeded to demonstrate these positions on the basis of the following propositions: (A) The basis of all just and safe operations in Life Ins. is a true Life T. (B) Security can be given, public confidence merited, only by intelligible accounts, and a public audit. (C) A person who lodges money in a bank can withdraw his deposit at will; and to this circumstance the large amount of bank deposits is due; by certain simple arrangements the accumulated deposit of a life office may remain at the command of its owner, and be made nearly as available as investments in other securities. (D) To insure the fulfilment of its engagements

extending over long terms of years, and affected by fluctuations in the interest of money, the value of securities, the mort. of mankind and the variable health of the insureds, who can enter or quit at any time they desire, a Reserve Fund is indispensable. This is created in an office for mut. ins. by a rated add. to the premiums. From these fundamental propositions he elaborated a system or scheme of ins. which appears to embody most of the elements which he had set forth as being desirable.

This scheme, while not adopted by the Gov. (if it were ever submitted to the authorities with any such view), did become, subject to some modifications, the basis of a project which for a time attracted considerable attention—viz. the *Consols* system of Life Ins., of which we have already given a detailed outline under CONSOLS INS.

1859.—France.—An attempt was made to organize a system of Agricultural Ins., as against *Cattle Disease, Floods, Frosts, and Hail Storms*, which in the end was to fall under the control of the State, and be made compulsory. M. Le Hir, a Foreign Correspondent of the English Inst. of Act., thus discusses the compulsory aspect of the scheme [*Assu. Mag.* vol. viii. p. 286] :—

But it may be objected, if ins. be not obligatory, no one will insure. The notices urging it, however, will be sufficiently apparent (1) because it is proposed that the Gov. should guarantee the good administration and the proper distribution of the large cap. stock [assessment revenue?] which will be annually received for the payment of the current losses and the reserves; (2) that the regulations of assu. should be well defined and the right of each insurer in the common fund well guaranteed; (3) that the classification of the risks be carefully effected, and no kind of property be liable to a tax beyond the value of the risk to which it is actually exposed—the want of such classification having been hitherto the principal cause of the want of success in Hail and Cattle Ins. in France.

With these conditions landed proprietors would soon be attracted to the advantages of the system; and the farmer, even if he were himself indisposed, would prob. soon be compelled by the owner of the land to avail himself of it. The art. 1769 of the *Code Napoléon*, which permits an allowance to the tenant of a part of the rent if he has lost the whole or even half of his harvest by fortuitous causes, would inspire in the landlord the thought of requiring the farmer to insure, and would cause the insertion of some such binding clause in all agricultural leases.

And lastly, it is evident that when the assu. of agricultural risks is placed upon a firm footing, the cultivators of land will be unable to obtain advances upon credit, either from individuals or public inst., except upon the condition of insuring his crops and his cattle, which are often the only security he has to offer.

There would then be some hope, when the practice of such ins. has become common and its benefits understood, of making it obligatory—a measure which would be an oppression to the already overburdened farmer, if the classification of risks were defective, and the contributions, in however small a degree, beyond the rate which would suffice to meet the loss.

Nothing practical came of the proposal.

1860.—Massachusetts, U.S.—In this Commonwealth State the question was agitated whether, in view of the large profits of certain Ins. Cos., the municipal gov. of towns and cities could not assume the function of *Fire* insurers with profit to their revenues and economy to the owners of insurable property. The Ins. Commissioners of the State, to whom the question was referred, reported adversely. See FIRE INS., MUNICIPAL AND STATE. [See 1865.]

1861.—England.—The system of “Post Office Savings Banks” was this year introduced under the authority of 24 Vict. c. 14; these banks having the same authority as the former Savings Banks or granting Deferred Life Annu.

1864.—England.—The Gov. system of granting Life Ins. and Annuities was this year perfected under the authority of 27 & 28 Vict. c. 43—*An Act to grant add. Facilities for the Purchase of small Gov. Annu. and for assuring Payments of Money on Death*. Deferred annu. were authorized to be granted for sums payable in smaller instalments and at shorter periods than theretofore (sec. 1). The maximum limit of such annu. was raised from £30 to £50 (2); and the condition that deferred annu. were to be purchased by all persons insuring for a sum of money at death was taken away (3). The limits of ages for payments on death were fixed at 16 as a minimum and 60 as a maximum; the pecuniary limits at £100 as a maximum and £20 as a minimum (4 & 5); Tables were required to be constructed by the Treasury for annu. and payments on death, providing (1) for contracts where the consideration money should be payable in one sum; (2) where it should be paid in ann. sums; (3) where it should be paid by more frequent instalments; such Tables to be calculated at 3 per cent. interest, to be laid before both Houses of Parl. 30 days before being acted upon, and to be liable to be revoked and cancelled on an address from either House (6). After 5 years’ payments of premiums insurers for death payments desirous to surrender, or making default [*lapsing*], were to be entitled to a surrender value, not being less than one-third of the premiums paid, or to a paid-up pol., or to an immediate or deferred annu. equivalent in value to the amount of such surrender value, but so as not to prevent the Commissioners from contracting for payments on death on the condition of non-return of premiums (8). Purchasers of annu., or persons contracting for ins., were to be considered as depositors in a Savings Bank, and all the provisions of the Acts “now” in force relating to Savings Banks, so far as applicable, were to apply to such persons, but not so far as to exempt persons insuring for sums at death from probate or stamp duty (9). Ins. for payments on death were made assignable after 5 ann. premiums (11). The Commissioners were not to be affected with notices of trusts affecting annu. or ins. except in so far as was provided by 16 & 17 Vict.

c. 45 (12). If the Commissioners refused payment of a sum insured for on death, the party beneficially interested to have an optional recourse to the County Court (Eng.), Sheriff's Court (Scot.), or Civil Bill Court (Ireland), instead of arbitration, the judgment of such Court to be without appeal (10). The National Debt Commissioners, with the consent of the Commissioners of the Treasury, were empowered to make regulations fixing the amounts of instalments and prems., and the periods of payment, but no instalment or prem. to be less than 2s. (13). The Postmaster Gen. with the consent of the Commissioners of the Treasury empowered to direct and authorize such of his officers as he might select to receive and pay moneys upon contracts under the Act, and the previous one (14); whilst in like manner the National Debt Commissioners, with the like assent, were empowered to authorize the trustees of Savings Banks to receive and pay such moneys (15); and each authority, with the like consent, was authorized to make regulations for carrying out the provisions of the Act, as far as their respective departments were concerned, such regulations to be binding to the same extent as if they formed part of the Act, and copies of all such regulations to be laid before both Houses of Parl. (16).

Dr. Wm. Farr prepared (under date "General Register Office, Somerset House, Jan. 13, 1865,") an elaborate paper, wherein he presented the considerations, general and minute, which should be kept in view in the construction of the several T. required in the complete and successful working of the plan. This was submitted to Mr. Gladstone, but was not intended for general circulation. Its contents will be reviewed in some detail under MORT. OBS. Certain of these considerations were embodied in the "Rules" presented for working the scheme. Dr. Farr prepared the necessary T., accompanied by the following:

A Statement of the Rules which have been observed in constructing the T. framed under the provisions of the Acts 16 & 17 Vict. c. 45, and 27 & 28 Vict. c. 43, together with some remarks in explanation of the T.

1. The following T. are divided into two parts, and consist of T. for the Ins. of Lives, *i.e.* for the assu. of payments on death, and T. for the Grant of Annu. The T. for the Ins. of Lives, and that portion of the T. for the Grant of Annu. (*i.e.* the T. for the Grant of Deferred Monthly Allowances), which have been framed under the authority of the Act 27 & 28 Vict. c. 43, have been constructed in accordance with the 6th section of that Act, which section declares it to be "expedient that the fund to be formed by the receipt of sums on account of contracts effected under the Act shall be adequate to meet all claims accruing and to accrue thereon, so as to render certain the fulfilment of all engagements under such Contracts, without entailing any charge in respect thereof or in respect of costs and expenses on the Consolidated Fund of the U. K."

2. For the construction of the T. for the Ins. of Lives of both sexes, the Life T., which is known as "*The English L. T. No. 3, for Males,*" and which has recently been pub. under the authority of the Reg.-Gen. of Births, Deaths, and Marriages in Eng., has been selected as being a T. which appears to give the most accurate estimate of the prob. of English life, and in computing from the said Life T. the Net Prems. to be charged for the Ins. of Lives, the interest of money has, in accordance with the 6th section of the above-cited Act, been taken as 3 p.c. p.a.

To the Net Prems. thus obtained there has been added a provision for costs and charges, and this provision has, so far as was practicable, been made proportionate to the work to be done in return for it. Thus, in framing the T. for the Ins. of Lives by Prems. payable more often than once in each year, an addition of 20 p.c. has been made to the Net Prems., and this addition, it is believed, will cover the cost of collecting such Prems. twice, 4 times, 12 times, or 48 times in each year, according as the persons insured shall elect to pay them half-yearly, quarterly, monthly, or weekly. In framing the T. for the Ins. of Lives by payment of an ann. prem., an add. of 10 p.c. has been made to the Net Prems., and in framing the T. for the Ins. of Lives by payment of a single prem., an add. of 2 p.c. has been made to the Net Single Prems., with a further add. of 2s. to the Single Prems. required for the ins. of sums not amounting to £50.

The "loading," or provision for expenses, thus included in the Gross Prems. to be charged for the Ins. of Lives, is intended to cover all costs and charges whatsoever arising out of such Ins., except the cost of procuring certificates of birth or baptism, or other evidence of age, which will, in all cases, have to be defrayed by the person proposing for the Ins.

3. The T. for the Ins. of Lives which are now submitted to Parl. are T. for the Ins. of Ordinary Lives only. Persons following dangerous or unhealthy occupations, amongst which occupations that of a miner, that of a butcher, and that of an innkeeper or beerseller, may be specified, will not, for the present at least, be insured under the T. for Ordinary Lives. The question of framing special T. for the Ins. of the lives of persons following specially dangerous or unhealthy occupations is still under consideration. If it shall be thought right to frame such T., they will in due course be submitted to Parl.

And if on the occasion of any proposal for Life Ins. there shall appear to be any circumstances connected with the health or habits of the Proposer which would have a tendency to shorten his life, that life will not be insured under the T. for Ordinary Lives. In such cases the Proposal will either be rejected altogether, or accepted only on condition that the insured person shall pay such Prems., in add. to the ordinary Prems., as shall be deemed sufficient to cover the add. risk.

4. The T. for the Sale of Deferred Annu. and Deferred Monthly Allowances have been constructed with respect to "Probabilities of Life," and to the Rates of Int., precisely as the T. previously framed under the Act 16 & 17 Vict. c. 45, were constructed. The law of mort. which has been observed in the construction of these T. is set forth in the observations Nos. 13 and 20 of the Rep. made on the 28th March, 1820, to the Lords of the Treasury, by the then Actuary to the Commissioners for the Reduction of the National Debt, and printed by order of the House of Commons on 31st March, 1820, in Parl. Paper 122. [These are the same data from which Mr. Finlaison calculated the rates for Gov. Annuitants which came into use in 1830. See GOV. LIFE ANNU.]

In computing the net prems. upon this basis the rate of int. has been taken to be 3½ p.c. p.a. To the Net Prems. chargeable for the purchase of Deferred Monthly Allowances by instalments payable more often than once in each year, an add. of 10 p.c. has been made to cover costs and charges, and it is believed that this add. will cover all costs and charges, whether the instalments of purchase-money be payable twice, 4 times, 12 times, or 48 times in each year.

To the Prems. fixed for the purchase of Annu., payable half-yearly, by single or ann. payments, no

add. has been made for costs and charges, but to provide for such costs and charges the purchasers of such Annu. will, as heretofore, be required to pay, at the time of purchase, fees not exceeding those sanctioned in respect to such Annu. by the Acts 7 & 8 Vict. c. 83, s. 9, and 16 & 17 Vict. c. 45, s. 11.

5. The T. for the Grant of Annu. and Monthly Allowances which are now submitted to Parl. are framed on the condition that no part of the purchase-money shall in any event be returned to the purchaser. Other T. to be framed on the condition that the purchase-money shall be returnable at any time prior to the commencement of the Annuity or Deferred Monthly Allowance are under consideration, and will be submitted to Parl. in due course.

6. The T. for fixing the Surrender Value of, or sum to be returned on, a Contract or Pol. of Ins., are also under consideration; but it may be observed that by the 8th sect. of the Act 27 & 28 Vict. c. 43, no Pol. or Contract of Assu. will have a Surrender Value until prems. shall have been paid under it for 5 years. See 1875.

The following are examples of the rates.

LIFE INS.—The Prems. vary with the ages of the persons whose lives are to be insured, and with the mode in which they are to be paid. Thus—the life of a Man or Woman in his or her 30th year may be insured for £100:

	£	s.	d.
By a single payment of	43	3	7 or,
By an annual payment, throughout life, of	2	6	7 or,
By a quarterly payment, throughout life, of	0	13	0 or,
By a monthly payment, throughout life, of	0	4	4 or,
By a fortnightly payment, throughout life, of	0	2	2 or,
By an annual payment, until the insured person reaches the age of 60, of	2	13	10 or,
By a quarterly payment, until the insured person reaches the age of 60, of	0	15	0 or,
By a monthly payment, until the insured person reaches the age of 60, of	0	5	0 or,
By a fortnightly payment of	0	2	6

Smaller sums may be insured by proportionate payments, but no one of the periodical payments must be of less amount than 2s.

At 30 years of age (next birth-day), 2s. per month will secure £46 1s. 10d. at death.

These Gov. Life pol. contain a clause voiding the pol. in case the insured should, after the pol. is effected, follow the occupation of a miner, butcher, publican, or mariner, or be engaged in active service as a soldier.

ANNUITIES—*Immediate*.—The sums for purchase vary with the age and sex of the person on whose life the Annuity is to depend:

	£	s.	d.
A Man aged 65 can purchase an Immed. Annu. of £10, payable, half-yearly, for	88	18	4
A Woman of the same age can purchase a like Annu. for	103	16	8
A Man aged 70 can purchase an Immed. Annu. of £10, payable half-yearly, for	73	3	4
A Woman of the same age can purchase a like Annu. for	84	19	2

Deferred Annuities.—The amounts for the purchase of Deferred Annuities, or Deferred Monthly Allowances, vary with the age and sex of the person on whose life the Annuity or Monthly Allowance is to depend; and with the length of the term for which the Annu. is deferred (or, in other words, with the number of years which are to pass before the commencement of the Annuity), and with the conditions of the contract as to the mode of purchase, mode of payment, and return or non-return of purchase-money.

When the condition of the contract is to be that no part of the purchase-money shall, in any event, be returned:

	£	s.	d.
A Man aged 30 may purchase a Deferred Annu. of £10, to commence on his reaching the age of 60, and to be payable half-yearly, either by an immediate payment of	24	3	4 or,
By an annual payment, until he reaches the age of 60, of	1	8	4
A Woman of like age may purchase a like Annu. by an immediate payment of	32	8	4 or,
An annual payment, up to 60, of	1	17	6;

and a Man aged 30 may purchase a Deferred Allowance of £2 7s. 3d. p. month, to commence when he reaches the age of 60, by a payment until he reaches that age of 8s. p. month; and a Woman of like age may, by a like payment of 8s. p. month, purchase a Deferred Allowance of £1 16s. 7d., to commence when she reaches the age of 60.

Return of Prems.—When the condition of the contract is to be that, in the event of the death of the person on whose life the Annu. or Allowance is to depend before the commencement of the Annu. or Allowance, the purchase-money is to be returned to his representatives, and that if the purchaser at any time before the commencement of the Annu. or Allowance is unable to continue, or wishes to discontinue, the purchase, the purchase-money shall be returned to him; the price charged will be higher than when no such condition is made.

	£	s.	d.
Under this condition, a Man aged 30 may purchase a Deferred Annuity of £10, to commence when he attains to 60 years of age, and to be payable half-yearly, either by an immediate payment of	40	9	2 or,
By an ann. payment, until he attains to 60 years, of	2	0	10
And a Woman of like age may purchase a like Annuity, either by an immediate payment of	47	0	10 or,
By an ann. payment of	2	7	6;

and a Man aged 30 may purchase an Allowance of £1 14s. 2d. per month, to commence

when he attains the age of 60 years, by a monthly payment of 8s. ; and a Woman of like age, by a like payment, until she reaches the age of 60 years, may purchase an Allowance of £1 9s. 4d. p. month.

The following are add. regulations :—

The Annuity or Monthly Allowance granted on any one life must not exceed £50 p.a., or £4 3s. 4d. p. month ; but purchasers need not purchase the whole amount of such Annu. or Allowance at one time. They may begin by purchasing such part as they can afford to purchase, and go on increasing their purchases from time to time as their circumstances will permit.

Husband and Wife may each be insured to the full amount of £100, and may each purchase an Annu. of £50, or a Monthly Allowance of £4 3s. 4d. Any two persons may purchase an Annu. on their joint lives, with or without continuance of the Annu. to the survivor.

Persons contracting for the Ins. of their Lives, or for the purchase of Annu. or Monthly Allowances, will be allowed to pay their periodical prems. or instalments of purchase-money at such of the Post Offices, which have been or may hereafter be opened for the purpose, as will suit them best.

Persons proposing to effect Ins. on their Lives, or to purchase Deferred Monthly Allowances, must provide at their own cost such certificates of birth or baptism, or other evidence of age, as shall be required from them, but will not be required to pay any fee for medical examination, or to pay the cost of any inquiry which the Postmaster-Gen. may think fit to make with regard to their health, habits, age, and occupation, or to pay any fee for the issue of any contracts which may be made in accordance with their proposals, or to pay any postage for the transmission of their proposals, or for the transmission of any correspondence arising out of such proposals between them and the Postmaster-Gen., inasmuch as a provision for all such costs and charges is included in the prems. which they will be required to pay, in accordance with the T. framed for the purpose, for the Ins. of their Lives, or the purchase of Deferred Monthly Allowances.

Persons proposing to purchase Immediate or Deferred Annuities, payable half-yearly, must provide at their own cost such certificates of birth or baptism, or other evidence of age as shall be required of them ; and, inasmuch as the prems. fixed by the T. framed for the grant of such Annu. do not include any provision for costs and charges, must pay, at the time of purchase, a fee of 1s., for every £1 of Annu. purchased.

The T. will be again referred to under INDUSTRIAL INS.

This Government plan—which did not commence actual operations until 17th April, 1865—although it met with some adverse criticism on its first inception, is a most admirable one, and marvellously adapted to the wants and circumstances of the industrial classes of the country : yet it has fallen almost as a dead letter amongst them. It is not that they do not insure. The money they pay yearly to the so-called Industrial Ins. Offices—many of which are not models of good or economic management—would, if directed into the coffers of this Gov. project, produce in a few years an amount of good yet little dreamt of. It fails for the want of those earnest advocates which large commissions on prems., and an almost utter disregard of the interests of the insured, produce for some of those ephemeral Asso. of which we have spoken. It would be well if practical philanthropy could step in here to commence the work. Its good results once seen, the growth would be certain. These obs. must not be construed to convey a belief that the Gov. is the best medium for carrying on the bus. of ins., or any other bus. ordinarily conducted with a view to profit.

The following T. shows the number and amount of the bus. transacted in each branch of the Gov. Ins. plan from the commencement :

Years.	LIFE POLS.		ANNUITIES.		Amount of Annu. & Monthly Allowances Purchased.	Total Purchase Money for Annuities.
	Number issued.	Insuring £	Immediate. No. of Contracts issued.	Deferred. No. of Contracts issued.		
1865	547	40,647	87	45	3,149	£ 23,080
1866	621	47,261	196	72	5,716	51,774
1867	364	26,989	268	41	6,670	67,460
1868	350	26,781	323	40	7,064	73,280
1869	422	32,670	352	45	7,855	76,463
1870	385	31,254	306	57	7,315	72,267
1871	358	27,695	360	36	7,982	84,679
1872	757	55,982	1019	38	10,591	100,107
1873	396	33,073	1344	35	10,873	109,802
1874	278	21,621	1814	53	13,251	119,848
1875	370	32,022	582	54	8,704	89,324
1876	270	22,875	729	29	10,477	111,775
1877	393	33,444	745	58	12,184	125,002
1878	229	19,608	709	50	12,745	131,179
	5740	451,922	8834	653		1,236,040

The large increase in the number of annu. granted in the 3 years 1872-3-4 was due to the fact of a number of contracts being granted on the lives of masters and seamen of mercantile marine through the Board of Trade. These had nearly ceased in the following year.

At the end of 1874—when the scheme had been in operation 10 years—there had been

issued 6531 annu. contracts of the various classes, the purchase-money on which had been £80,374, of which there were in force 5930, representing purchase-money £70,600; while of life pol. there had been issued 4478, insuring £343,797, of which 3630 remained in force, insuring £284,069.

The total number of Annuity Contracts in force at end of 1879 was 11,150, of Life Ins. 6130.

There has been some discussion as to who was the actual originator of this Gov. scheme of Ins. Dr. Farr has been confidently spoken of—we believe he never personally claimed the honour which may belong to it. The idea may in truth be carried back into the last century in relation to the various schemes then propounded for the benefit of the poor. Nearly all these embodied the idea of a Gov. basis. So with Mr. Whitbread's scheme of 1807. [POOR, INS. FOR THE.] The real unobtrusive mover in the present scheme was Mr. C. W. Sikes, of Huddersfield, who had been long in communication with Mr. Gladstone thereon, and from whom the latter drew what little inspiration he had in the matter. We ought to add that Mr. Frank Ives Scudamore, late Sec. of the Post Office, claimed a large share in the conception of the present scheme. The late Mr. W. P. Pattison's name was also sometimes associated with it; while Mr. Wm. Hardwicke (now Coroner for Central Middlesex) had been working in this direction for some years.

Mr. Marcus N. Adler, M.A., read before the Inst. of Act. a paper: *Some Considerations on the Gov. Life Annu. and Life Assu. Bill*, wherein many practical points are discussed, and many considerations of value were most opportunely raised. This paper is printed in the *Assu. Mag.* (vol. xii. p. 3).

Same year Dr. Wm. Hardwicke, M.D., pub. a pamph.: *Life and Health Assu. for the Working Classes. An Answer to the Question how the Gov. may best acquit Itself in the Production of a comprehensive Plan of Life Assu. for the Working People of Gt. Brit.*

Lord Stanley of Alderley, in reporting [as Postmaster-General] upon this scheme in March, 1866, gave various points of explanation, which it is well to keep in view:

At the outset the operation of the P. O. was met by the difficulty which it had had to encounter on the first estab. of P. O. Savings Banks, viz. the difficulty of making known the nature and advantages of the scheme to the persons for whose benefit it was intended. . . .

Much more persistent efforts are required for the satisfactory explanation of the system and the advantages of Life Ins. than for making known the nature and the benefits of a Savings Bank; nor is it so easy to persuade men into an economy from which, at some distant date, their relatives may derive a benefit, as to persuade them to lay by money for their own use and benefit. Under these circumstances, it was not to be expected, nor did I expect, that the bus. of the Gov. Ins. and Annu. Office would progress with great rapidity; but I did anticipate that this bus. would in the course of years, as the working classes became acquainted with the principles and merits of the scheme, attain a considerable magnitude. . . . I may state that no day has passed since the commencement of bus. without the arrival of fresh proposals for the ins. of lives or the purchase of annu. A bus. which is so constantly accumulative cannot fail to become one of magnitude and importance. In the next place I am glad to perceive that a continually increasing proportion of the proposals come from the poorer classes of the community. This result was to be anticipated. As the advantages of the P. O. Savings Banks became more and more widely known to the poorer classes, the average amount of each deposit fell from £3 6s. 2d. to £2 17s. 1d., the average amount at the present time. Concurrently with a decrease in the average amount of each deposit there has come an increase in the number of depositors. A like cause is gradually producing a like result in the bus. of the Ins. and Annu. Office. . . .

While the Gov. Ins. and Annu. Act was under consideration by the Legis., an opinion was expressed that Friendly Societies, which had undertaken to provide, in return for a single subs., sick pay, old age pay, and death pay, would do well to make arrangements for the trans. of their old age and death risks to the Gov., by payment of course of a proper consideration, and to confine themselves to dealing with the liabilities contingent on sickness. I have recently received a proposal from a large F. Soc. for the trans. of its old age risks to the Gov., and the terms of the arrangement are now under consideration. I am informed, moreover, that other proposals of this kind are likely shortly to be made.

On the whole, I am able to conclude my obs. on this subject by stating that the scheme framed for the conduct of ins. and annu. bus. has worked smoothly and well; that the checks estab. for the protection of the Gov. have hitherto proved sufficient for their purpose; that the advantages of the measure are gradually becoming known to the classes for whose benefit it was devised; and that, looking to all the circumstances of the case, and the steady and continued growth of the bus., the success of the measure may be regarded as estab.

If his Lordship had been writing with the figures of the later years before him, we think he would have taken a less sanguine view. The scheme is indeed regarded by practical men as an entire failure.

1865.—Massachusetts, U.S.—The question of assuming Municipal control of the Fire Ins. bus. in this State was still being discussed. The Ins. Commissioners again replied adversely. "By some of the second-rate arbitrary Gov. of Europe, Fire Ins. has been practised with great benefit to their revenue, but a high price to the insured."—See FIRE INS., MUNICIPAL AND STATE. [See 1874.]

1868.—France.—There were this year instituted systems of *Life* and of *Accident* Ins. under State guarantees. The Life portion of this scheme is not dissimilar in its general scope from the English Gov. scheme of 1864. A fixed sum is made payable on the death of the insured. The prem. may be made by single or ann. payment; they are calculated on Deparcieux's T., with 4 p.c. interest, and a margin of 6 p.c. for expenses. The age next birthday is taken. There is no medical examination on admission, but if the life dies within 2 years of admission, the prem. paid only are returned. There is no minimum limit of ins.; but the maximum limit is 3000 fr. (£120). The limits of age are

from 16 to 60 years. In the event of default of the payment of a prem. within 30 days, int. at the rate of 4 p.c. p.a. is charged; if not paid for 12 months after it becomes due, the office surrender value only will be paid on surrender or lapse. Any Friendly So. (duly approved according to the decree of 26 March, 1852) may obtain a collective assu. for its members, not exceeding 1000 fcs. (£40) upon each life. The pol. of these collective F. Soss. are granted only from year to year. Life pol. are only trans. or liable to be charged with the debts of the insured to the extent of one-half the amount, and then only provided at least 600 fcs. (£24) is left unaffected by the trans. or charge. Ann. prems. only are taken.

The *Accident* portion of the scheme embodies the following features: Life annu. are granted to persons engaged in agricultural or industrial pursuits, who are rendered permanently incapable of labour by accident arising in the execution of their duties; and also assistance to the widows and infant children of those who die from a like cause. A person disabled from labouring at his own trade, but not altogether incapacitated, may receive an annu. of half that granted in case of total disablement. Here the minimum limit of age is fixed at 12, there is no maximum age stated. In the case of the death of a bachelor or childless widower by accident, leaving a sexagenarian parent or parents, the benefit is extended to them. The principle of collective ins. is here extended to Public departments, Industrial estab., and Railway Cos. In this department of the bus. a special committee, consisting of a Gov. engineer, a physician, and two members of Friendly Soss., is constituted in each arrondissement to report on applications for benefit. This scheme of Accident Ins. (so-called) originated in a benevolent idea of the late Emperor, who proposed a Gov. subsidy which should yield an amount equal to the sum contributed by the members—in other words, the insured were to obtain their ins. for 50 p.c. of its cost. A State contribution of 2,000,000 fcs. (£80,000) was accordingly made at starting, the int. on which and on certain accumulations is yearly paid over in aid of the funds.

In either branch proposals may be made in Paris to the *Caisse des Dépôts et Consignations* (under whose general management the scheme is worked), or in the departments, to the local Treasurers or Post Offices. In the latter case a provisional receipt is given, to be exchanged for the "livret-police" in due course. After the pol. has once been granted, the renewal prems. may be paid to any authorized receiver in any locality. A lost pol. may be renewed, subject to certain formalities. In the official circular of M. de Forcade to the Prefects, the reasons for certain features of the scheme are explained in some detail. The Gov. (it was said) could grant ins. upon cheaper terms than the private Cos. which charge a margin of sometimes more than 20 p.c. The State asked for no profit, and was enabled to fix the prem. low—just sufficient to cover it from loss. Grave inconveniences were apprehended from the State undertaking an inquiry into the health and habits of the insured; and to avoid these the system of two years deferment of the ins. was devised. A proposition to make this optional with the insured, and to allow any proposer who was willing to submit to medical examination to obtain an immediate ins. was negatived. Policies on the lives of third persons are declared not to be within this law. It was hoped the system of "collective ins." for Friendly Soss. would cause them to unite in the Gov. plan.

The Life Ins. portion of the scheme has been a very decided failure. The whole ins. in this department in force at the end of 1877 was 1,029,100 fcs. (£41,164). In 1878 the new bus. was—Paris 41,941; departments 36,904 fcs.—total sum insured, 85,846 fcs. (£3432). The Accident department, it is said, has been more popular, the prems. in 1878 amounted to 8257 fcs., supplemented by the interest on State Grant 130,019 fcs.—total 138,276 fcs. The claims and the amount transferred to provide for old age pensions amounted together to 49,914 frs. [FRANCE, sub-heading *Gov. Ins. Projects.*] See 1879.

1869.—New Zealand.—Of the many Gov. Ins. projects, this may be pronounced to be the only one whose operations have been attended with marked success. The scheme was commenced under the authority of a local Gov. measure known as "The Gov. Annuities Act, 1869."

By the end of the 5th year of operations there had been issued a total of 4366 life pol. insuring £1,588,909; 87 endow. pol. insuring £10,150; and 24 annu. pol. securing annuities to the amount of £1234. The total prem. receipt from these sources had been £102,835. The lapsed pol. had been 514, insuring £147,850—being about 12 p.c. of all those issued.

In 1874 there was enacted the "Gov. Ins. and Annu. Act, 1874," under which fresh powers were granted as to investment of funds; it was provided that an actuarial investigation be made at the end of each 5 years of operations, and an "Industrial" branch was added. The first year this branch was in operation it issued 79 pol. insuring £8357; but this portion of the scheme was regarded at an early date as a failure, and very wisely abandoned. The scheme at this date was regarded as being in thorough working order; and the official report for the year concluded as follows:—

Thus a system has been constructed under which the State offers to every person an easy means of providing for his family, and guarantees that provision, while at the same time it relinquishes to him the profit, if any, of the transaction. The State is satisfied with the recompense which it derives from the increase of provident habits and the decrease of destitution among its people, and the insurer

receives the more immediate advantage. The continued success of such a system is a social object of inestimable worth, and should be carefully cherished. The whole community collectively, and members of it individually, are directly interested in that success, and directly share in the gain.

At the end of the 5th year—June, 1875—an investigation was made into the position of the life and other funds. The valuation was made by Mr. A. H. Bailey and Mr. W. P. Pattison—English actuaries of known repute. During its existence the office had received from all sources £171,345 5s. 8d. and disbursed £61,377 13s. 7d., leaving the accumulated fund at £109,967 12s. 1d. Of these disbursements, commission and expenses absorbed £35,384 2s. 4d. or nearly 21 p.c. of the total receipts. The Institute of Actuaries H^M Table, with 4½ p.c. int., was employed in the valuation. This was a higher rate of interest than had been assumed by any Ins. Co. valuing in the Australian colonies hitherto; but as the funds were yielding 5½ p.c., no exception could be taken to the use of this rate. There were in force at the date of valuation:

4,958 Life pol. insuring	£1,833,819	.....	producing ann. prems.	£57,510	and
31 Annu. „ „	2,184	per ann.	„ „	103	
In all 4,989 „ „		producing an ann. revenue of		57,613	

The liability on these contracts amounted to £97,776, so that there remained a surplus of £12,191. In the valuation, only the net prems. were valued, the whole of the loading being reserved. This loading, according to the statement of the actuaries, amounted on the ordinary whole life pol. to 21½ p.c. on the prems. payable. As the expenses and commission had absorbed 24 p.c. of the prems. received, it was clear that the expenses had intrenched upon the profits from other sources; but this is inevitable in the early days of any ins. enterprise however prudently managed. The actuaries recommended that no division of the surplus be made; and it might be necessary hereafter to make special reserves in connexion with the Endowment pol. The first actual division of profits falls to be made on 30th June, 1880.

The following passages occur in the Actuaries' Rep.:

The rates of prem. are undoubtedly very low, especially at the older ages. They are below the prevailing rates in this country, and are lower than are generally charged by the principal Assu. Sos. in the Australian colonies. No considerable surplus is, we think, likely under any circumstances to accrue from such prems. Their sufficiency will depend mainly upon the cost at which the bus. will in future be conducted, and the rate of interest at which the funds will be invested.

The following is a specimen of the rates of the leading Australian offices and of this department, which underwent some adjustment after the report just quoted:

Name of Institution.	Prem. charged per £100 at age 35.	Loading contributed.	Per-centage of loading on Prem. charged.
	£ s. d.	£ s. d.	
Australian Mutual Provident So.	2 15 4	0 15 11	28·7
Mutual of Victoria	2 14 9	0 15 4	28·2
National Mutual (Victoria)	2 13 3	0 13 10	26·0
Mutual Life Asso. of Australia	2 12 7	0 13 2	25·0
Colonial Mutual of Victoria	2 11 9	0 12 4	23·8
Australian Widows' Fund	2 11 6	0 12 1	23·5
New Zealand Government	2 7 2	0 7 9	16·5

Finally, the Actuaries advised against the continuance of the Industrial branch.

The leading features in the practical working of the scheme are as follows:

Inviolable Security.—The payment of every pol. is guaranteed by Act of the Legislature.

Division of Profits.—The whole of the profits are to be divided amongst pol.-holders.

Residence and Travelling.—Pol. contain no restrictive conditions as to voyaging, trade, or occupation. Pol.-holders may travel in any part of the world, or engage in any occupation; or reside anywhere, except within 25 degrees of the Equator.

Days of Grace.—Thirty days are allowed on all renewal prems. No pol. is absolutely forfeited for non-payment of prems., unless the same remains unpaid for 12 months. Such pol. may be revived, provided the prems. in arrear and interest are paid, and the insured is in unimpaired health.

Policies Non-Forfeitable after 3 years to the full extent of their value, so long as the surrender value of the pol. is not less than the prems. in arrear, together with interest at 6 p.c. p.a. Such pol. may be revived even within 12 months after exhaustion of surrender value on proof of unimpaired health, and payment of arrears and fine.

Indisputability.—Pol., after 5 years' duration, are indisputable and unchallengeable on any grounds whatever connected with the statements on which the ins. was based, provided the age of the insured has been admitted. Such pol. are freed from all conditions, except the payment of prem., provided the age of the insured has been admitted, and he has attained 30 years of age, and has resided continuously within the ordinary limits from the date of the pol. Holders of such pol. can reside in any part of the world without licence or payment of extra prem.

Proof of Age.—Age will be admitted at any time on a pol. on production of either a

certificate of birth or baptism ; or, failing these, the best proof that can be secured, such as, for instance, an entry in a family Bible, or a statutory declaration from a relation or friend stating belief as to age, and reasonable grounds of such belief.

Surrender Values.—Insurers, after having paid 3 full ann. premiums, are guaranteed a cash surrender value of about 40 p.c. of the paid-up premiums ; and if for any reason the premiums are not paid when due, a *paid-up pol.* will be granted for an amount generally greater than the paid-up premiums.

Loans.—Pol.-holders can borrow on the security of their pol. at 7 p.c. p.a. to the extent of 90 p.c. of the cash surrender value.

Bankruptcy.—A pol. effected by the insured *bonâ fide* on his own life, is protected from Bankruptcy Laws to a certain amount, which increases with its duration. Thus, after it has endured for 2 years, it is protected to the extent of £200 ; after 5 years, to £500 ; after 7 years, to £1000 ; after 10 years, to £2000.

Settlement Pol.—Policies effected for the benefit of wife and children are, from the date of issue, absolutely protected from the claims of creditors to the extent of £2000.

The following T. shows the progress of the bus. in each of its branches—the financial year terminates 30th June :

Year.	Life Pol. issued.		Endowment Pol.		Annuities.		Ins. Fund.
	No.	Amount Insured.	No.	Amount.	No.	Amount.	
		£		£		£	£
1870	53	27,800	...	...	...	...	...
1870-1	395	177,574	10	1100	4	352	...
1871-2	1322	453,225	27	3000	6	345	..
1872-3	1131	427,050	23	2400	7	253	36,801
1873-4	1465	503,260	27	3650	7	283	67,105
1874-5	1347	488,358	17	2000	7	965	109,976
1875-6	1215	477,120	27	3950	6	218	153,717
1876-7	1393	560,828	13	3100	3	197	219,394
1877-8	1978	679,500	9	1100	4	162	292,523
1878-9	2047	683,728	20	2555	4	263	371,889

This considerable bus. has been obtained in a pop. of a little over 300,000 persons.

England.—On the occasion of the failure of the *Albert Life* this year, there was some agitation that the Gov. should increase the limit of the Life pol. granted under its scheme of 1864 to £500. The following observations thereon were offered by Mr. M. B. Sampson, the then editor of the City department of the "*Times*"—a very competent authority :—

Although nothing can be more inconsistent with sound theory than for the Gov. to meddle with trading concerns of any kind, whether for the sake of keeping the poor in leading-strings or any other purpose, it would be much less hurtful for them to take this course than to frame a system like that in vogue in the U.S., where the despotic will of a State Controller may confine the bus. to one dull groove and mode of management. [This is a misapprehension.] Let the Government go fairly into competition with other offices, leaving those offices untrammelled by any restrictions save those of the common law, and the results, if there is anything in old experience, will soon show the superiority of private enterprise. It is only in the case of monopolies that Gov. control can be of any advantage. Where there is monopoly the question is simply whether it is better for the public to be in the power of an individual animated by no feeling except the desire to extort as much as possible from them for his own gain, or in that of the Gov., which, though its management may be clumsy, acts only in their name, and is responsible to their judgment.—7th Sept.

The Registrar of Friendly Sos., in his [14th] Ann. Rep. for this year, speaking of the Gov. scheme of *Life Ins.*, said (p. 16) :

One objection to the *Ins. on Life*, with Gov. security, is that the member has to pay his contributions at the post office, instead of being called upon by the collector or agent ; but as it appears by returns made by some of these Burial Sos. [those having paid agencies] that the postmaster in some places, as well as the letter-carrier, are employed and paid by some of these Sos. for collecting contributions, there seems to be no reason why such persons should not also be paid by the Gov. for calling for the regular payments ; in add. to which, in the case of a contract made with the Gov. at a post office in *Bristol*, the monthly or quarterly contributions may be made at any P.O. in the kingdom, which would prevent much loss to the member ; and supposing he had effected an *ins.* at the P.O. in *Bristol*, he would, on removing to *London*, or elsewhere, continue his payments [at the P.O. there].

1870.—Switzerland.—The system of State Fire *Ins.*, as long practised in the Canton *Zurich*, is regarded as an instance of as perfect working as can be found in Europe. Under FIRE *INS.*, MUNICIPAL AND STATE, will be found a very complete outline of the mode there practised—this date.

Schleswig-Holstein.—Early in this year a plan of obligatory State Fire *Ins.* was under the deliberation of the Provincial Assembly.

1871.—Denmark.—A Gov. system of *Life Ins.* and *Life Annu.* made applicable to the wants of the middle classes was commenced in this kingdom on 1st Jan., under the

authority of a law passed in 1870. The scheme is managed by an administrative council of five members, of whom at least two must be versed in the mathematics of ins., and another one must fill the position of manager. The inst. performs all the ordinary operations of a life co., insuring joint lives and granting term pol.; it also grants immediate, reversionary, or deferred annuities, etc. Ins. are not made on the lives of children of less than 5 years of age. Premis. are payable half-yearly, quarterly, or monthly, and amounts for death claims are payable within 3 months after proof of death. The surrender of pol. is made on terms favourable to the insured; if premis. are not paid at maturity, and the insured soon after dies, his representatives have, for a certain time, the right to avoid forfeiture on paying a fine with the prem. due. The inst. has agents in different parts of the kingdom, but the post offices, and other places authorized by the financial minister, may receive premis. At Copenhagen, if the insured so desires, the payment of premis. can be made at his dwelling, without extra expense. The commission to agents is 2 to 3 p.c. Every 5 years a valuation is to be made of outstanding risks, and the surplus (if any) to be devoted, one-half to the aid of a reserve fund, and one-half to the State. All Gov. employes are invited to assure, either for life annu., or for sums payable at death. Notwithstanding the liberal arrangements. of this State ins. inst., it is reported to be only the middle classes that patronize it; the labouring classes (for whom many features of the plan are peculiarly applicable) appear alarmed at its complications. They prefer mutual aid societies, and other combinations of a less stable character.

1872.—Manchester.—During this year there was before the City Council a proposal to inquire into the desirableness and feasibility of the Corp. undertaking to insure owners of real property within the City under a scheme of Municipal Fire Ins. The proposal was not favourably entertained. [FIRE INS., MUNICIPAL AND STATE.]

England.—Dr. T. L. Nichols, M.D., in his *Human Physiology the Basis of Sanitary and Social Science*, pub. this year—a work of marked ability—says (page 451):

And all ins. of property of all kinds, and life ins., and ins. against accidents, might be done by the Gov. with great economy and advantage. The policy would guard against frauds, and prevent and extinguish conflagration. Every vessel registered, and every cargo entered, should be by the same act insured. Such oversight and guardianship of the Gov. would make it every man's interest to be loyal; and the Gov. would be what it should be ever—the head and heart of the Nation.

This is the hope, the dream, of the philanthropist; but it will prob. never be realized.

1873.—United States.—This year several of the State Legislatures, viz. *Maine, Massachusetts, and Virginia*, exhibited a strong leaning in favour of experiments in State Fire Ins. The nature of the proposals varied. In the last-named State the proposal was that the State should assume a monopoly of *all branches of Ins.*, as a means of making money, i.e. aiding the revenue. In the case of Massachusetts the subject was again investigated by the Ins. Commissioners, and in the following year a State document embodying their own views, as also the views of various persons of large experience in Ins. matters whom they had specially consulted. [FIRE INS., MUNICIPAL AND STATE.] The following passage from this Rep. is instructive:

Lastly, the idea is not new. Again and again have such laws been brought before the Legis. of the State of N.Y. and urged with great persistency; but they have failed to bear the test of the careful and close scrutiny to which they have been subjected, as to their superiority over the prevailing system. Laws providing for the existence of such organizations exist in the States of *California, Illinois, and Wisconsin*; but all of them coupled with an individual liability clause, on the plan of Mut. Cos.—only those who are insured being liable for taxation for losses. There is, however, no record of the present existence of any such asso. in the towns of the States referred to. As none of these States have any considerable amount of cap. invested in ins., and as the laws have long been upon the Stat. books, it certainly shows a great lack of faith on the part of their citizens in this method of protection.

England.—In the evidence taken before the Friendly Sos. Commission this year there was seen to be on the part of certain of the witnesses a desire to urge Gov. interference, not indeed with the sickness branch, but with respect to the small sums insured at death. Thus Mr. Scudamore expressed his belief that the minimum sum should have been £5 instead of £20. He was further of opinion that, in order to give full force to the measure advocated, it would be necessary for the Post Office to estab. a species of house to house collection; because, said he, there is no doubt whatever that to the industrial classes there is a certain irksomeness in having to recollect continually that they must go and pay their small ins. premis. at a particular office on a particular day, in order to secure the small payments on death. These people are extremely likely either to forget or to neglect the periodical payments; and he assured the Commissioners that he would be prepared to devise the requisite system of collection at a very short notice—provided the limits of ins. were altered as already stated. He evidently leaned also towards the reduction of the limit of age at which ins. are to be effected, from 16 years to 12; he advocated the abolition of the lower limit of 2s. for premis., only objecting to the receipt of fractional parts of a penny; and he would advise that the Gov. should be empowered to insure for at least as much as £200. See 1874.

1874.—England.—Sir Geo. Campbell, D.C.L., etc., etc., in his opening address as President of the Economy and Trade Section of British Asso. at Glasgow, this year, speaking of Friendly Sos. as one of the subjects to be presented for discussion at that Congress, said:—

Of the details of that subject I am not qualified to say much; but on the general subject of Ins. I will venture to express my opinion that, seeing the enormous importance to the community of the machinery by which providence is promoted and rendered effectual, and the peculiar difficulties and risks which attend Inst. to secure deferred benefits, when left in private hands, the Gov. should take a part much more active and effectual than any Gov. has yet proposed to undertake. In truth, I incline to the view, that much of the bus. of Ins. should be undertaken by the State directly.

In the 4th Rep. of the Commission on Friendly Sos. pub. this year, there is (pp. xcvi-viii) the following regarding the State undertaking the bus. transacted by *Friendly Societies*:

847. The main argument which is urged against the State undertaking this class of bus. is, that it would be impossible for Gov. officials to check imposition; and it is said that wholesale imposition can only be prevented by a local organization which gives every member an interest in watching his neighbour and reporting him if he appears to be drawing pay unfairly. Mr. Stanhope replies that "as a matter of fact neighbours are most reluctant to tell much about each other;" and he observes that in some cases which have come under his notice the rate of sick pay in the local clubs runs far higher than in the County Sos., or even among the Foresters, which have not the same advantages of "this information by neighbours." On the other hand, the State would have many advantages for the prevention or detection of fraud which the ordinary Sos. do not possess.

848. We are inclined to think that the danger of imposition, and the difficulty of preventing "malingering," would be very great in a Gov. Friendly So.; but without entering fully into this controversy, we are upon other grounds of opinion that it is not desirable that the State should, under present circumstances at all events, undertake what is called sick bus.

849. We do not, therefore, advocate the introduction of a system of Gov. sick pay. But we are of opinion that much advantage might result from such an extension of the system of Gov. Life Assu. and of Gov. Deferred Annu., and also of small "Endowments"—that is to say, sums to be paid at a certain time—as would bring these benefits within the reach of the humbler classes. The Gov. Assu. have thus far met with very imperfect success. For this there are two reasons. In the first place, the system has not been sufficiently made known; and in the second place the limits within which prems. are received and assu. are granted are too narrow.

United States.—The question of the State undertaking the bus. of Ins. was still being urged with great pertinacity, more especially by the Hon. Amasa Walker, of Boston, who took his stand upon this ground: "The State is bound to afford protection to the lives and property of its citizens, and any act on its part necessary to the full realization of this great object is not only right and proper, but obligatory." The "*Spectator*" *Ins. Journ.* of N.Y. answered him in the following conclusive manner:

The same argument that would estab. the claim that our Gov.—National, State, or Municipal—could furnish ins. at cheaper rates than corporations, would prove that Gov. could furnish all kinds of products at cheaper rates than corps. or individuals, and carry on all branches of commerce at less expense than private enterprise. If this is so, why not dispense with all private enterprise, and why not blot all corps. out of existence, and make the people the hirelings of the Gov.? Why leave the people to depend upon their own individual enterprise and judgment in securing the comforts of life when Gov. can do this at less expense and with more certainty?

What security can Gov. give to the insured better than that found in ins. corps. managed by prudent experts? If it can make the payment of pol. claims more certain than corps. can, it must exercise its authority to impose taxes upon the insured in times of emergencies, or else draw from its exchequer funds which have been contributed by all its subjects, insured and uninsured. *This would be taxing those who did not choose to insure for the benefit of those who did.* But this would be a system of compulsion utterly averse to the spirit of our Gov. and obnoxious to the better judgment of every American citizen.

No one will contend that a State is a more successful financier than private corporations. It has no more interest in exercising economy—in placing its finances in the hands of honest men—than corporations. Nor has it greater facilities for detecting fraud in its incipency, nor for recovering funds embezzled, than any other body politic. Then, if a State or the National Gov. promises the insured greater safety, better security, than corps. can give, it must be on the ground that pol. claims may be paid, in whole or in part, out of funds raised by the State from parties not insured, or that the State has the right (and will exercise it) to levy a tax upon the insured to make up deficiencies which may be found in the funds which have already been paid by pol.-holders. But if a Gov. may exercise such a right as this, why may not corporations? And if they may, the better security that is promised vanishes.

If, at the outset, a State can claim no superior advantages over corporations in the man. of this bus., it has nothing to encourage it in expecting to make money by the operation. Nor have the people a shadow of a reason to encourage them to place their risks in the hands of Gov., as an ins. inst., in preference to placing them in the hands of regularly incorp. ins. cos.

But, aside from all this, why should Gov. become a competitor, in strictly bus. transactions, with individual and associated enterprise? In a strictly political point of view, would this be wise? Would it be sanctioned by men justly bearing the title of statesmen? Would it be approved by men capable of discerning the exact distinction between the legitimate functions of Gov. and the rights of the people, which the best interests of society demand shall not be delegated, but exercised by them as freely and as constantly as if no Gov. existed?

1875.—India.—It was reported that a scheme of State Life Ins. was this year under consideration by the Gov. of this Empire. The *Post Mag.* remarked thereon: "The officials of our Eastern Dependency are far a-head of those at home in administrative ability; we are, consequently, certain the matter will only be pursued if there appear, on searching examination, to be a great probability of success, and that it will be beneficial to and is required by the public. Such an amazing instance of inert incapacity as the man. of our home State Life Assu. Office would not be permitted to exist in India."

England.—In the House of Commons Mr. Salt drew attention to the fact that in the 8 years 1865-73 there had only been some 300 applications for deferred annu.; 4000 for immediate annu., and about 3600 applications for life ins. This he regarded as a failure, and was anxious to see if some remedy could not be devised. Lord John Manners, on behalf of the Gov., said the subject was under the consideration of the Chancellor of the Exchequer.

Same year there was enacted the 27 & 28 Vict. c. 43—*An Act to grant additional Facilities for the Purchase of Small Gov. Annu., and for Assu. Payments of Money on Death*—which embodied the following modifications of the original scheme : 1. If any contractor for an ins. on his life, after having paid for 5 years or upwards the prem. due under his contract, shall desire to surrender his contract, or shall make default in the payment stipulated to be made according to the contract, the Postmaster-Gen., on behalf of the Commissioners for the Reduction of the National Debt, on the application of the person beneficially interested in the contract, on a form to be obtained by application at the General P. O., shall pay to such person such sum of money as may be certified by the Actuary of the National Debt Office to be the surrender value of the contract, calculated according to the table of mort. and the rate of int. under which the contract was entered into ; unless such value shall be less than one-third of the prem. paid, in which case the said one-third shall be the amount payable. 2. If any contractor for an ins. on his life shall die by his own hand or by the hand of justice, the Commissioners for the Reduction of the National Debt may authorize the Postmaster-Gen. to make payment to the representatives or assignees of the deceased person of such sum not exceeding the total amount assured as may appear to the Commissioners to be just and reasonable.

This year, also, Mr. W. J. Hancock, F.I.A., read before the Statistical and Social Inquiry So. of Ireland a paper : *On the Temporary and Permanent Business of F. Sos. ; with some Suggestions for making the latter secure through the Agency of the Post Office Ins. and Savings Bank Departments*, wherein he draws a marked distinction between the various "benefits" insured against, in ordinary F. Sos., and suggests a plan for making the "Superannuation" and "Death" benefits secure, as follows :

The great importance of having the funds for superannuation and death payments secure and safe, leads me to suggest that friendly sos., instead of investing their own funds for these objects, should invest their money in the post office ; by insuring the lives of the members, and purchasing deferred annu., and acting as agents for the post office for these two benefits. By collecting the periodical payments with their own contributions, and paying the periodical payments in a bulk into the post office, the members would then be secure, so far as the funds for these benefits are concerned ; the so. would be relieved of responsibility ; its bus. would then be confined to provide for temporary sickness or temporary want of employment. If the so. failed, the members could, if they wished, still keep up their connexion with the post office by paying their prem. direct to it.

If a member goes from one part of the country to another, he could transfer his life and superannuation pol. in the post office from one friendly so. to another, without loss to himself or disturbance to the affairs of either so. If the limit of ins. were reduced to, say, £5, and the T. for life assu. and for superannuation were framed to suit different trades or classes of friendly sos., the post office might come to aid friendly sos. (not compete with them) by affording the best investment for their contributions for these two benefits.

Another advantage of adopting the post office assu. and superannuation plan through the friendly so. is, that if the member becomes unable to pay up his prem. for a time, the so. might all the same pay for him out of their general funds, and even if they did not recover the amount from him, they would be relieved from the unpleasantness of either paying a levy or refusing to pay a levy for his support in his old age or for his widow and orphans in the event of his death.

1876.—Germany.—There was some agitation set on foot in this Empire for a system of State Ins. The *Wriener Zeitung*—a provincial newspaper—concluded an exceedingly well-written art. upon the subject as follows :—"Hence, we wish with all our heart that the State would take the matter of life ins. in hand and undertake itself its man. We go further, *we should like to see the Gov. compel every man to obtain an ins. in a suitable amount, upon his life, adjusting the amount of prem. upon principles analogous to those on which the income tax is adjusted.* When life ins. has once been made an inst. of the State, we shall soon begin to see the quantity of human misery diminished." The proposed mode of assessing the prem. embodies a new idea.

In the following year (1877), at the convention of social democrats held in Cologne, it was resolved that a petition be prepared and addressed to the Gov. praying that *Fire Ins.* might be made a Gov. monopoly. This action led to a discussion (in that country) of the question whether ins. is one of the legitimate functions of Gov. In this discussion one of the trades unions' journals took part, but without reaching the marrow of the subject. Among other things it said : "The object of fire ins. is to distribute the losses caused by fires over a large number of persons who have property at risk. Carrying out the theory in practice, however, is so extremely difficult that the Gov. ought not to undertake the task." At this point the *Deutsche Versicherungs Zeitung*, the leading Ins. Journal of Germany, took up the discussion, and offered the following excellent observations upon the question :

This view is entirely erroneous. The true purpose of fire ins. is something quite different. When a man obtains fire ins., his object is a purely economical one. The distribution of loss is merely the process through which the object is reached. No matter how great the difficulty of the task, Gov. ought to assume its performance, if it is right and necessary that it should do so. The real question is whether the principle of the greatest good for the greatest number really renders it necessary or beneficial to make ins. a matter of State monopoly.

The right of the State to resort to compulsion is limited to cases in which it is necessary for the preservation of its existence, and the promotion of the well-being of society. As fire ins. is now constituted, its compulsory estab. is not absolutely essential either for the continuance of Gov. or for the interests of society at large. Supposing that every fire ins. co. was wiped out of existence, the State would hardly be justified in forcing its citizens to inaugurate a system of ins. Individuals must be left free ; it is one of their natural rights to forego the benefits of ins., if they see fit. Upon what pretext can the State undertake to compel citizens to provide those benefits for others, and to associate themselves together as ins. cos. for the purpose ? Any such attempt would be a wrongful usurpation of power. . . .

Even if the State were to make fire ins. a monopoly in such a manner as to leave it free for every one to insure or not, as he saw fit, only requiring that persons who wanted ins. should obtain it from the State, the arrangement would still be a violation of private rights, and be contrary to the laws of political science. Upon what ground can the State undertake to prohibit a man from obtaining ins. from any inst. but those belonging to the Gov.? Monopolies are never blessings to the community. Their managers only use them to plunder the people, or if the monopolies remain strictly Gov. property, they only serve to produce bus. stagnation, and to retard the march of progress. . . .

Free ins., and particularly that furnished by the stock cos., is of far more service to the community than any State or compulsory ins. This is not the place to consider the intricate mechanism required in order to bring this free ins. within the reach of the public; the benefit it confers is the point now under consideration. . . .

The idea hatched in the minds of the social democrats is as impracticable as their other notions about having the State undertake everything that relates to work and subsistence. All these ideas are Utopian. They are popular only with ignoramuses and pot-house politicians, who grudge men the honest fruits of their toil. That a labourer is worthy of his hire is the *punctum saliens* in every kind of bus. If the principle is disregarded, society must cease to exist.

The duty of the State is to secure the right to obtain ins. It can restrict the privilege only so far as the common good demands; it has no right to prohibit ins. altogether, or to go into the field itself as an insurer, unless the public interest imperatively requires it. Any such measure would be entirely abnormal and wholly uncalled for under existing circumstances. The State is the embodiment of the laws of society, under which each individual is left free in the pursuit of happiness after his own fashion, and is protected therein. It cannot, therefore, trample under foot the right of individuals to select at will the parties with whom to effect ins. It has no greater right to set aside inst. which fulfil all the conditions necessary for furnishing ins. upon the most favourable terms, and substitute itself in their place. Such action would not promote the general good, and hence there is no excuse for making ins. a Gov. monopoly.

1877.—Canada.—In consequence of the failure of several Life Offices in this Dominion, about this period, there was some outcry made for the introduction of a scheme of Gov. Life Ins. The subject has been under the consideration of the Parl. of the Dominion since, and indeed is so still. We commend to the advocates of the scheme the following passage from the *Ins. and Real Estate Journ.*:

In our opinion it is incompatible with a national Gov. to enter upon these monetary enterprises. They were conceived by the enlightenment of the people, and they ought to be conducted by them for their own profit. Life ins. is a commercial undertaking, and as such contributes largely to the revenue of a country; but because of an occasional failure of an inst. from incompetent management, or something worse, it does not follow that national management should be substituted for private misconduct. Failure is not a rare feature in the course of trade; but it is never followed by serious suggestions that, as a measure of public safety, the nation should become the vendor and not the citizen. There is no want of security on the part of Life Ins. Cos.: that exists in abundance; but what is indispensable to safety is that circumspection on the part of those insuring that will enable them to distinguish the powerful from the feeble institutions.

The *Daily Globe* of Toronto—one of the most influential newspapers in the Dominion—offered at a later date the following sound reasoning upon the question:

There is but one plea that can be urged for the Gov. going into the bus. of insuring the lives of the people, and that is the greater security which it may supposed will attach to a Gov. policy. . . . If they did look for security they could find half a dozen Cos. already doing bus. in Canada whose security is practically as good as that of any Gov. under the sun; and therefore the plea that Gov. ins. is necessary in order to furnish security falls to the ground at once. But, as a matter of fact, in ins. as in everything else, there are a host of purchasers willing to take some risk, provided that the article they want can be procured cheaply. These insurers would not patronize the Gov. inst., for the reason, which we will presently demonstrate, that Gov. ins. must necessarily be very much dearer than that conducted by private inst.

But we fail to see any reasons, beside party reasons, why the idea should have been mooted at all. Why should Gov. descend from its place and take the bread from the mouths of the people now earning their livings from life ins.? What argument in favour of Governmental life ins. could be so put as not to extend to Governmental fire and marine ins.; to Governmental manufacturing estab.; to Governmental stores; to Governmental everything? Life ins. is in no sense a necessity, like the carrying of the mails. It cannot be compared in importance with the conducting of the railroads and canals which the Gov. do conduct, and which could not otherwise be in existence. It is not nearly so advisable a thing as it is that Gov. should control the telegraphs and railways, and yet to the Gov. undertaking either of those businesses there are objections which counter-balance all the many advantages. What nonsense it is to be mourning about the spread of Socialism and Communism when the Gov. itself stands ready to take a longer step towards Socialism than any yet taken in this country. Who wants a paternal Government here? . . .

It is not difficult of proof that the insuring of lives by the Gov. must necessarily be a more expensive process than the same bus. conducted by a private Co. The Government cannot enter the market and invest its surplus at current rates of int. All it can do is to invest its funds in its own securities, in which they will realize exactly as much as the rate of int. at which our Gov. can borrow in England. This rate, when the negotiation of the loan is not bungled, is about 4½ p.c. A private Ins. Co., on the contrary, has the range of the globe from China to Peru before it, and can deal in any kind of security. Its funds can be invested just as securely as our Gov. funds can be, and at 6, 7, or 8 p.c. int. And though the man. of Ins. Cos. is often wasteful, it will be contrary to all experience if the Gov. will not be found equal to spending a vast deal more upon the man. than the most lavish of existing Cos. has done. It has grown to be a maxim that Gov. inst. cannot be as economically managed as private affairs. How, then, can life ins. be made profitable, when not only will the man. be more wasteful, but the income from invested funds less than the corresponding income of a private Co. by at least 50 p.c., in consequence of the restricted nature of the investments?

1878.—England.—The question of a scheme of National Ins. was again raised by a paper in the *Nineteenth Century*, from the pen of the Rev. W. L. Blackley, bearing the title: *Mut. Ins.: A Cheap, Practical and Popular Means of Abolishing Poor Rates*. But the aim of the paper being the elevation of those in the lower grades of the social scale, we may more conveniently consider it, with other similar proposals, under the title of POOR, INS. FOR THE.

United States.—A Bill to establish a system of life ins. for officers of the United

States Navy and Marine Corps was introduced in the House of Representatives at Washington. According to the provisions of this Bill, any officer passing a medical examination could take out a pol. of life ins., signed by the Sec. of the Navy, for such sum as he desired, not exceeding \$25,000—and upon this pol. he would pay a tax computed at a rate corresponding to his age and the risk assumed in granting his pol. The amount of this tax is to be withheld by the Paymaster from his monthly pay, and the aggregate amount of taxes on all polys. issued is, at the end of every quarter, to be paid into the U. S. Treasury. On the death of an officer, the amount of his pol. to be paid to his representatives from the funds of the Treasury. The principle underlying the whole scheme being to make the system self-supporting, by so calculating the taxes that the aggregate amount of money received shall equal, as nearly as possible, the total sum paid out to meet polys. falling due. It is a mut. asso. without working expenses, the Gov. furnishing the machinery by which the bus. is carried on. In order to equalize receipts and expenditures, the Sec. of the Navy is authorized, at his discretion, to increase or decrease the rate of taxes at any time. The advantages which it is claimed will result from an ins. plan of this kind are:—1. Cheapness.—The expenses attendant upon the management of ordinary cos. being avoided, ins. is effected at prime cost. This would prob. reduce the tax on pol. one-half, as compared with the usual rates. 2. Perfect security.—The Gov. being security, there can be no collapse. 3. Payment of policies in good faith.—The death of a pol.-holder is the only fact inquired into; therefore no legal quibbles can be raised to defeat the payment of a pol. 4. Convenience.—The taxes being withheld from his pay, an officer is relieved of all trouble in remitting money for the payment of prems. For this reason, also, polys. cannot lapse from accident or neglect. 5. Avoidance of special taxes.—The officer is not compelled to pay an extra prem. if exposed to extra risk, but under all circumstances pays the same tax, whether at home or abroad, ashore or afloat.

Australia.—The Governor of the colony of Victoria, in his speech at the opening of Parl., said “that in the opinion of his advisers the circumstances of the colony warranted the estab. of a system of Gov. Life Assu. and Annu.,” upon which the *Australian Ins. and Banking Record* remarks:

What new facilities could be offered to the people by a Gov. department if one were estab.? We are not aware of any. The Gov. have not even the excuse that the pol. issued by our Life Offices are subject to stringent and vexatious conditions. In this respect our offices are more liberal than those of Gt. Britain and Ireland. Why then should the Gov. spend the money of taxpayers in estab. a bus. to enter into competition with private enterprise? We have no desire to discuss political subjects, but we may be allowed to ask—wherein lies the consistency of a Protectionist Gov. trying to crush native industry? Our various Life Offices have been estab. without any aid or encouragement from the State, and they have succeeded in the manufacture of Life Assu. of a more attractive quality than can be imported from the mother-country—for they have almost driven the imported article out of the market. Is it a serious offence to estab. an industry without any help from the State? If not, why should the State step in to injure it?

The scheme proposed was to be similar to the Post Office plan in England, concerning the success of which, however, the Governor had been most entirely deceived.

1879.—France.—A proposition for a Law for the estab. of a service of State Ins., applicable to *Fire, Hail, Flood, Frost, and Live Stock* (Cattle) Ins., was submitted to the Chamber of Deputies in July this year, endorsed by a large number of the deputies. The main arguments used in support of the measure were substantially as follows:

Agriculture, in view of which principally this proposition has been prepared, submits yearly to considerable losses, adding indirectly to the fiscal charges which it supports. Fire, Hail, Inundations, the mort. of Live Stock, come periodically as a tax upon territorial property, inflicting upon it an injury, figured annually at several hundreds of millions.

If we consider that we live in a country where the property is divided to that point, that at the present time the taxable capacity of France, represented by 16 millions of landed shares, is divided between 8 millions and upwards of freeholders, we see at once that it is upon the small property that the scourge weighs most heavily. In England, where the soil is the property of less than 200,000 individuals,—almost all at the same time landholders, fundholders, and manufacturers—when either hail, inundation or drought has destroyed or injured their land revenues, there remains to them to live upon, during the year, the revenue from their tenant-houses, their coal-mines, their mills, or other incomes. In France what is there left to the owner of a field of less than one hectare—and there are 3 millions in this category—when hail or frost has devastated the field of grain, or the square of vines, which is the support of the whole family, or if fire devour the roof which shelters them? Here the loss is irretrievable and without compensation. He will be told there remains to him the resource of Ins. But ins. is not accessible for small property. The rich proprietor of Paris pays only ten centimes p. 1000 fcs. for his real estate, built of stone, and covered with slate or zinc; the cultivator or person of small property in the departments of Correz, Creuse, Aveyron, or the poor and mountainous departments, pays, or rather would be obliged to pay did he insure, 8 fcs. p. 1000 for his thatched house; that is to say, 80 times dearer than the Paris proprietor, and in certain departments, la Haute-Vienne, les Hautes-Alpes, les deux Savoires, the prem. upon risks amounts to 15 fcs. p. 1000; for rural buildings containing crops it is from 8, to 15 to 16 fcs. p. 1000. For standing crops it is higher still. In the departments most exposed to hail—and we will estab. further that they are the poorest—the prem. of ins. against *Hail* is 15, 18 and 20 fcs. p. 1000 when there is the question of cereals; and for the vine the prem. amounts to 80 fcs. p. 1000. One sees here how urgent it is to do something for the person of small property, who, in consequence of the exorbitant tariffs of the ins. cos., is in fact excluded from the benefits of ins. Ins. as practised is not made for the poor.

The administration has drawn up at the close of each financial report the return of the losses in the depart. occasioned by the accidents which we have just enumerated. These returns, drawn up by prefectorial authority, are at once verified on the premises, and controlled by the agents of the direct taxes, to serve as a basis to the distribution of special relief placed at the disposal of the prefects, as

besides its ordinary utility, the value of a new tax which would not be unwillingly given. If the average prem. were fixed at 1 p.c., instead of 0.9447 p.c., the Exchequer would receive a yearly profit of about 150,000 yen. If there were a regulation to the effect that not the whole, but, for instance, only $\frac{1}{4}$ th of the damage caused by fire should be repaid, an amount of $\frac{1}{4}$ th of the average yearly destruction of houses by fire, that is, a quarter of 44,000 houses or 11,000 houses, or at least 385,000 yen, would be saved. Both these receipts would therefore bring the State 535,000 yen. The ins. would in reality be a house tax, which could be very considerably raised by a moderate increase of the prem. for town houses. By a taxation of the prem. England extracted profit from ins. I would observe in addition that the longer periodicity of great earthquakes, storms, inundations, and wars, necessitates the accumulation for a number of years of the contributions put down for them. This accumulation could be used by the State at a low rate of interest, in place of public debts with a high rate of int., and thus cause a new reduction of the expenses of the State.

VI. In order to make ins. universal, the State must order it to be so; voluntary ins. requires an universal insight on the part of the pop. into the nature and utility of ins.; but this knowledge cannot exist here at present to such an extent as to stimulate the instinct of thrift and foresight. Even now, many towns, provinces, and states possess a compulsory entrance to certain ins. offices. The State must here also compel ins. by law.

VII. The State even without ins. feels itself bound to give assistance in cases of more than ordinary disaster. We have already mentioned the large donations given by the Gov. to those whose houses were burned down in the Satsuma rebellion. According to Dr. Naumann, after great destructive earthquakes the Japanese Gov. in ancient times repeatedly remitted the taxes in the provinces which had suffered. This occurred in the years 818, 830, and 842. But not only the State, but also the public felt it to be its duty to assist in alleviating the distress occasioned by great catastrophes. At the fire of Tôkiô, in November, 1877, 2,932,82 yen were spent, and each of the 30,460 sufferers received 9 sen 6 rin. How could a drop in the ocean like this be of any use? Thousands and thousands lose their all in the course of every year without any compensation; those who are well-to-do become beggars, and are thrown from opulence into penury—unavoidable and unmitigated want and misery occur to thousands yearly. The State can confer the only benefit which will be sufficient for all, the benefit of legal universal insurance.

This would be followed by the prevention of impoverishment, the safety of house and other property, and consequently also mortgages; cheaper credit, enhanced production and capacity for export—and an increase of the revenues of the State.

United States.—At the Ann. Convention of the State Ins. Superintendents, held at St. Louis this year, Mr. Welsh, Commissioner for Kansas, submitted a resolution recommending such legis. as would "compel each Life Ins. Co. doing bus. in this country to place and keep in the vaults of the State where organized, or in the vaults of the U. S., for the general benefit and security of all its pol.-holders and creditors, such an amount of assets as will pay all losses and claims, and, in addition thereto, an amount equal to the reserve charged on all outstanding pol. in force." This is a new form of State control which did not find much favour.

1880.—Germany.—It is reported that Prince Bismarck is maturing a scheme for acquiring the bus. of all the Ins. Offices of the Empire by the State. We have not been able to obtain details; but the *Echo* newspaper contained (in February last) a statement, of which the following is the substance:

A correspondent from Stuttgart tells us that the municipal authorities of the capital of Wurtemberg have received counsels or commands from Berlin requiring them to do all in their power to forward the newly opened State Assu. Office, the so-called *Kaiser-Wilhelmsspende*. This "Spende," or contribution, as many will remember, was commenced at the suggestion of Moltke, and was intended to be the expression of the joy and gratitude of the entire German people at the deliverance of their Emperor from the assassin. The sums collected have reached an enormous total, and the Emperor was asked to decide what use should be made of the capital. The commission which he named for the consideration of the question how to make the great "National Present," as it is called, of really effective value to the nation, has decided that the sum of 1 million marks shall be expended in the foundation of a National Assu. Fund. All Germans who do not belong to the propertied classes are to be assured, according to the hopes of the commission, of an old age free from monetary anxieties—at all events, the burden of life is to be lightened, if the thing works well, as life grows near its end. The carrying out of the scheme is planned in the most liberal manner, and everything is to be done which can help without at the same time pauperizing. The Wilhelmsspende will constitute the capital with which a national savings-bank will begin bus. The smallest sums will be received, and an income will be secured to every member between the ages of 56 and 71. The maximum is fixed at 1000 marks, or £50 English. The detailed explanation of the project would fill much space; and it is enough here to notice that the project is really the foundation of an Imperial Life Assu. From time to time reports have got abroad that, as soon as the State had settled the national appropriation of the railway system, it would make a grasp at the life assu. system. Although the institute is a Prussian idea, it is welcomed with great enthusiasm in North Germany, and the local savings-banks will, no doubt, be in time affiliated to the Imperial project, so that the thrift of the German people will be centralized. The Socialists assert that the scheme is a leaf torn out of their book, and that the application of the Wilhelmsspende, like the acquirement of the Prussian railways, is a species of State Socialism.

Belgium.—A French Ins. Co. has petitioned the Belgian Ministry for Public Works for permission to open offices at all the railway stations in the kingdom for effecting ins. against railway accidents. The Co. undertakes, in consideration of the grant, to hold the State harmless from any claims which may be made on it for accidents on its railways.

GOVERNMENT LIFE ANNUITANTS, MORT. T. FOR [ENGLAND].—It is not simply the extent of the direct dealings in Life Annu. —considerable as these are—but rather the magnitude of the interests depending upon Reversions, as also upon Leases for Lives, and other lifehold estates, which first created, and has continued to augment the attention given to the ascertainment of the true duration of life amongst classes which may be fairly supposed very frequently to embody some principle of selection, at some point of time, in the lives concerned. In fact the proverbial “longevity of annuitants” is either a fiction altogether, or it is a fact of wide monetary and even social significance—for if true, the moving cause, be it mental or physiological, or the joint result of these forces acting upon each other, may, must, apply in a greater or lesser degree to all who are in like circumstances. Hence the survey upon which we now enter requires, and will receive, investigation extending over a wide area.

1692.—The English Gov. made its first attempt at raising a national loan by means of Life Annu. on a Tontine basis—thus following the example of Holland, nearly a quarter of a century earlier, and prob. other European States. [TONTINES.] The details of the scheme have already been given under title LIFE ANNU. at this date; but the circumstance comes under notice again here, because it was among the nominees of this venture that the earliest data was found available for Mr. Finlaison’s inquiry in 1829, which it is our purpose to elucidate.—See T. No. 1.

1742.—It was during this year that M. Deparcieux constructed a T. of Mort. from the data supplied by the lists of nominees of the two *French* Tontines of 1689 and 1696 respectively, supplemented by that of another Tontine of 1734, and from the Registers of certain Religious Houses in France; as we have fully stated under DEPARCIEUX’S MORT. T. This prob. called attention to the fact of the existence of similar data in Gt. Brit.—it should have done so.

During this same year Herr Kersseboom constructed a Mort. T. based upon the experience of the Government Annuitants of *Holland*. This T. will be given under HOLLAND, MORT. T. FOR.

1745.—Certain of the subscribers to a Gov. lottery set on foot this year received bonuses by way of Life Annu., as stated in some detail under ANNU. ON LIVES. The lives upon which these annu. were granted formed a portion of Class 2 of Mr. Finlaison’s Obs. in 1829.

1746.—During this year a portion of the national finances were raised by means of a *Lottery*, and for and in respect of each 10 tickets purchased therein there was given by way of bonus a life annu. of £9. The life annuitants so created formed a portion of Class 2 in Mr. Finlaison’s investigation of 1829. The sagacity of the Dutch in relation to the nominees they put forward on this occasion—mostly young girls—has been spoken of under LIFE ANNU. at this date.

1751.—Mr. Weyman Lee, in his *Valuation of Annu. and Leases Certain*, etc., pub. this year, took note of the data connected with the English Gov. Annuitants. He says, in explaining the data upon which he had constructed his Annu. T. (p. 51): “I reviewed the B. of Mort. for London; and having an opportunity of seeing and considering an account of the mort. of the Nominees in the Gov. Annu. on Survivorship, I had special regard to such account; since it contained a B. of Mort. of individuals without variation, and therefore must be the best guide to discover and fix the chance of vitality.” The actual results of his obs. on this body is briefly stated as follows:

The persons were nominated before Midsummer 1693, and at Christmas 1693—the account I have seen being drawn up from Christmas to Christmas—the number of persons then surviving was 1009, and at Christmas 1728 there were dead 505—so that in 35 years exactly one-half were dead; and I suppose that all the persons nominated, and when nominated, at average, might be something between the age of 6 and 10. . . .

His conclusions throw no further distinct light upon the vitality of this body. [MORT. OBSERVATIONS.]

1757.—The subscribers to a scheme of Gov. Life Annu. set on foot this year received a bonus in the shape of a life annu. for each £100 subs. to it. The annuitants thus created were brought under Mr. Finlaison’s Obs. No. 2, in 1829.

1766.—This year the Gov. raised a further loan by the sale of Life Annu. and a Lottery. The annuitants so created (very few in number) came under Mr. Finlaison’s Obs. No. 2, in 1829.

1773.—The first of the three *Irish Tontines* was set on foot. The nominees therein were included in Obs. No. 3, by Mr. Finlaison in 1829. [TONTINES.] See 1775 and 1778.

1775.—The second *Irish Tontine* was set on foot under the authority of the Parl. of Ireland. The nominees in this Tontine were included in Mr. Finlaison’s Obs. No. 3, in 1829. See 1773 and 1778.

1778.—The Gov. raised a further sum of money by the sale of Life Annu. The small number of annuitants so created were included by Mr. Finlaison in his Obs. No. 2 (1829). In this year too the third *Irish Tontine* was set on foot. The nominees in it were included in Mr. Finlaison’s Obs. No. 3, in 1829.

1779.—The Gov. raised a further loan this year by the sale of Annu., and in connexion with the loan was a scheme of bonus Life Annu., of which details will be found under ANNU. ON LIVES. The annuitants of this class were included in Mr. Finlaison’s Obs. No. 2 (1829).

1783.—The Baron Maseres pub. his famous work on *Life Annu.* this year, and he therein pointed out the near general correspondence of the T. of *Deparcieux* and *Kersseboom*, and the applicability of either of them, if Gov. should determine to grant *Life Annu.*, alike in the case of new loans, or in discharge of a part of old loans in perpetual 3 p. cents. He pointed out the grounds of his preference for *Deparcieux's* T. of Mort., and he pub. at his own cost, and with prodigious labour, a set of *Annu. T.* calculated from this data. See 1789 and 1808.

1789.—The circumstances attending the Great English Tontine of this year were peculiar. We have given under *ANNU. ON LIVES*, at this date, an outline of the financial features of the scheme, but the position of the nominees as amongst themselves requires to be noticed, in view of making clear what follows. The Tontine was to consist of about 10,000 shares of £100 each, and the benefit of survivorship on such a number was promised to the subscribers. But only 3518 lives were put in by that body—the other contributors having soon afterwards preferred a long annu. to the Tontine. To keep faith with those who held to the orig. contract, the Treasury was obliged to take the remaining shares, and to appoint a nominee for each,—who were then called “Gov. nominees.” These were chosen as follows: the class under 20 consisted of the children of the nobility and gentry, whose names, age, parents, and residence were returned by the clergy of the several parishes. The other elder classes consisted of well-known freeholders of property, persons insured in the *Amicable* Office, and so on. From the whole, the numbers deficient in each class were drawn by lot, viz. 4831 lives. As these persons had no interest in the Tontine, it was afterwards suggested that no sufficient evidence of the date when any of them died would be attainable. This, however, we are assured by Mr. Finlaison, turned out to be a mistake. Justice to the contributors required that the officers at the Exchequer should discover every such date with the utmost accuracy, and they paid a small reward for each parochial certificate of such an event. In fact, it was further stated by Mr. Finlaison, they had never once lost sight of the nominees for a period of 40 years—knowing perfectly well their residences, professions, etc., which was not difficult, since they were mostly people of considerable note in life. The death, it was admitted, might not be known immediately on its happening, but it was always very soon known, and then its real date and other necessary particulars to enter on the register were obtained. Hence it was “quite clear from the separate obs. on the mort. of this class that there can be little if any error whatever in this respect.” (Rep. 1829, p. 7.)

The nominees in this Tontine were included in Finlaison's Obs. 4, 5 and 6, in 1829.

Another important fact remains to be noticed in connexion with this Tontine. When Mr. Pitt, as Chancellor of the Exchequer, introduced this loan to the Ho. of Commons, he stated that the calculations had been made from the “most approved T. of lives.” From the evidence of the original MS. calculations it is now known that the approved T. referred to were those of *Kersseboom* (see 1742). These did not differ very materially from those of *Deparcieux*. The Baron Maseres, as we have seen, had, in 1783, pointed out the near general correspondence of the two T., and the applicability of either of them to the purpose of Gov. Finance based upon *Life Annu.* In this particular instance of Tontine *Annu.* it was almost immaterial whether either of the T. named, or the *Northampton* T. were employed; but it is of the utmost consequence to keep in view the fact that the advantages of the two first-named T. were well understood at this date. See 1808.

1808.—The Gov. commenced granting *Life Annu.* under an arrangement of State Finance generally spoken of as the “Sinking Fund.” The entire details of the plan have been given under *ANNU. ON LIVES* at this date. But the most remarkable and unaccountable fact—unaccountable in the light of preceding events—remains to be stated: viz. *that these Annu. were granted upon the data of the NORTHAMPTON T.*—which was thoroughly unsuited to the purpose: a loading of some 2 p.c. was added for charges. The Actuary who prepared these T. was Mr. Wm. Morgan, who was then Actuary to the *Equitable* So.—and who ought to have known, if only from the fact that these T. had yielded that So. such large profits on its *Life bus.*, how unsuitable they must be for Annuity purposes! But we have already shown that, as far back as 1783, the data best adapted for the purpose was well understood by those learned in the science of *Life Contingencies*; and that in 1789 Mr. Pitt, as Chancellor of the Exchequer, was properly posted!

The blunder which had been committed was speedily represented to the Gov. by various gentlemen whose names are now familiar to us all; amongst these may be especially enumerated the Baron Maseres; Mr. Francis Baily; Mr. Joshua Milne—to whose convictions upon this point we prob. owe the *Carlisle* T. (1815); Mr. Benjamin Gompertz, and prob. some others.

One example of the erroneous nature of these T. for annuity dealings will suffice. For a life aged 60 an immediate annu. of £10 6s. 3d. was granted; while taking the price of the Funds (variation in which affected the purchasing price of the annu.) as being between £79 and £80 on an average of a century, the annu. ought to have been but £8 10s. 7d. The deferred annu. were granted on still worse terms.

The mort. experience of the annuitants under this scheme was included in Mr. John Finlaison's Report in 1829; as also under that of Mr. A. G. Finlaison in 1860.

1812-17.—It was during this period that Mr. John Finlaison—Keeper of Records to the Admiralty, who had occupied much time and attention in founding Widows and Orphans Funds for various branches of the public service [FINLAISON, JOHN]—had his attention directed to the erroneous data on which the Gov. Annuity scheme of 1808 was based. He now had the advantage of the *Carlisle T.* for the purpose of comparison, as also of reference to the works of the able writers we have already mentioned in this connexion. He turned these advantages to such practical account as ultimately secured him the position of Gov. Actuary, and rendered him one of the foremost mathematical authorities in Europe. The results, however, as bearing upon the blunder of 1808, were only accomplished by gradual steps, which we proceed to trace.

1819.—It was on the 1st Sept. this year that Mr. John Finlaison laid before Mr. Vansittart his first Rep. upon the Gov. Life Annu. System. Its extensive acquaintance with the subject indicated that it had received a considerable amount of attention from him. Mr. Vansittart's confidence in the correctness of the *Northampton T.* was very much shaken from a perusal of this Report, combined, perhaps, with other representations known to have been made. He directed Mr. Finlaison to "spare no labour in the investigation of the true law of mort. prevailing in Eng. among the class of annuitants." This simple direction is the key to much that follows.

Mr. Finlaison commenced his more extended investigation by an endeavour to procure the necessary data from the records of Births, Marriages, and Deaths of the Nobility of Gt. Brit.; but after 18 months of labour in this direction, he found it would involve too wide a range of inquiry for his present purpose. Circumstances at length induced him to turn to the records of the Exchequer Offices of England and Ireland—indeed it is remarkable that no direct suggestion in this direction had been previously made!—and here he found the very materials for his purpose, in the records of the Tontines from 1693 to 1789, together with the more modern annuitants of the Sinking Fund (1808). These, and an obs. made by himself on the Chelsea and Greenwich Pensioners, afforded him the means of tabulating upwards of 19,000 deaths, capable of absolute proof as to age, and with another advantage (his biographer thinks—vide *Assu. Mag.* vol. x. p. 159), "that being taken only from the higher classes, they excluded those lives which could not have any concern with life assu." This is certainly a fact to be kept in view, for various reasons.

1823.—Mr. Finlaison had by the end of this year completed his investigations to such an extent that he felt justified in constructing a complete set of Annu. T. for single lives, required for the purposes of the Sinking Fund Acts, under which the Gov. granted Life Annu. In these T. he gave the values of immediate and deferred annu. at 9 rates of int. (payable half-yearly) for every year and half-year of human existence. No half-yearly T. of life annu. had been previously calculated in this or any other country. He afterwards calculated a similar system of T. for two joint lives. None of these money T. were brought into use until 1830; but on the other hand these values were not changed by the results of the Obs. pub. in 1829.

It will be useful to give the following abstract T. of the results of Mr. Finlaison's investigations up to this date, showing: 1. The rate of mort. p.c. 2. The exp. of life. 3. The present value of an annu. at $3\frac{1}{4}$, and 4 p.c. respectively—each of these for males and females separately.

Age.	MALES.				Age.	FEMALES.			
	Mort. p. cent.	Expec.	Value of the Annu.			Mort. p. cent.	Expec.	Value of the Annu.	
			At 3½ p.c.	At 4 p.c.				At 3½ p.c.	At 4 p.c.
3	1'249	49'80	22'105	19'264	3	1'098	55'05	23'065	19'951
8	'604	47'02	21'708	19'028	8	'572	52'50	22'895	19'892
13	'526	43'31	20'833	18'339	13	'477	48'70	22'124	19'316
18	'931	39'61	19'817	17'533	18	'840	45'22	21'404	18'780
23	1'415	36'87	19'192	17'068	23	'862	42'09	20'782	18'333
28	1'272	34'41	18'633	16'671	28	'905	38'87	20'045	17'788
33	1'246	31'40	17'821	16'052	33	'996	35'61	19'205	17'153
38	1'314	28'28	16'796	15'246	38	1'110	32'40	18'301	16'461
43	1'353	25'08	15'593	14'261	43	1'152	29'14	17'261	15'646
48	1'420	21'68	14'102	13'005	48	1'193	25'75	16'009	14'633
53	2'149	18'34	12'452	11'579	53	1'288	22'22	14'493	13'366
58	2'961	15'47	10'937	10'255	58	1'697	18'69	12'774	11'889
63	3'552	12'72	9'341	8'833	63	2'276	15'30	10'922	10'260
68	5'276	10'14	7'692	7'334	68	3'399	12'16	9'018	8'548
73	7'226	7'96	6'213	5'974	73	5'476	9'41	7'194	6'876
78	9'798	5'78	4'583	4'445	78	8'758	7'19	5'613	5'406
83	16'226	3'82	2'992	2'925	83	11'381	5'57	4'422	4'292
88	30'953	2'31	1'677	1'649	88	16'056	3'62	2'834	2'774
93	46'000	1'49	'943	'932	93	34'818	1'97	1'374	1'355
98	100'000	'50	...	...	98	65'000	'94	'421	'417

The foregoing T. is specially arranged to compare with a later T. to be given under date 1860.

The differences between the results here given and those of the *Northampton* T. at the more advanced stages of life—when alone the difference becomes material—is shown in the following abstract :

EXPECTATION OF LIFE.				PRESENT VALUE OF AN ANNU.		
Age.	By Northampton Table.	Finlaison's Table 1823.		By Northampton Table 3 p.c.	Finlaison's Table, 1823, 3 p.c.	
		Males.	Females.		Males.	Females.
53	16'54	18'34	22'22	11'674	12'986	15'113
58	14'15	15'47	18'69	10'337	11'406	13'311
63	11'81	12'72	15'30	8'910	9'751	11'384
68	9'50	10'14	12'16	7'367	8'053	9'416
73	7'33	7'96	9'41	5'794	6'535	7'542

From this comparison it is seen—1. That not only is the expect. of life under the *Northampton* T.—which embraced male and female lives—below that shown for the male sex by Mr. Finlaison, and considerably below that shown for females alone. 2. That were it a question of purchasing a life annu. at the age of 63 years by the *Northampton* T., the annuitant, whether male or female, would be charged indiscriminately £891 for the annu. ; while under Mr. Finlaison's T. the charge to a male would be £975, and to a female £1138 for the same benefit. At this date there were many persons in Gt. Brit. and elsewhere fully alive to this fact—hence the growing loss to the Gov. on its annu. bus.

1824.—Mr. Finlaison's Rep. was now printed, and laid before the Committee on Finance, but does not appear to have attracted the attention which was expected by those at least who understood the magnitude of the pecuniary interests which it was designed to affect. Indeed Mr. Finlaison was now feeling the effects of official indifference to an extent which can now hardly be credited, but of which we have already furnished reasonable proof. [FINLAISON, JOHN.]

We may appropriately take some note here of the degree of pains with which Mr. Finlaison performed his task. The following passage from his biographer simply illustrates what will in other directions appear :

But the gradual conviction forced upon Mr. Finlaison that none of his predecessors in Political Arithmetic had ever attained correctness, obliged him to repeat his work twice, thrice, or even four times, before the truth of the new results became unquestionable; and the time which, during four years, he devoted to the intense labour of calculation, very considerably exceeded an average of 12 hours a day. With less enthusiasm in the cause his task would not have been concluded in any reasonable period.

One of the results of Mr. Finlaison's investigations was a belief that the average duration of human life had sensibly increased during the last century. [HUMAN LIFE, INCREASED DURATION OF.]

1825.—A Select Parl. Committee sat this year to consider the laws respecting *Friendly* Soss. Mr. Finlaison was called before this Committee on several different occasions; and although the purpose of the Committee was to elicit information regarding the law of sickness, the interest which this witness was enabled, from his recent extended investigations into the law of human mort., to invest his evidence with, led to the publication (in the appendix to the report of this Committee) of the T. he had constructed from the data relating to the several classes of Tontine and other annuitants, accompanied by a special rep. bearing upon sickness. See 1827 and 1829.

One of the most noticeable features of these T. was the marked difference in the relative duration of male and female life. A difference had been shown in previous T., but not at all in the same degree. The accuracy of the T. were indeed questioned in this regard; but a subsequent investigation by Mr. A. G. Finlaison (of which we shall give details under date 1860) confirmed the fact, subject to some slight modification at the more advanced ages.

1827.—Another Select Parl. Committee to consider the Laws of *Friendly* Soss. sat this year, to which was referred the Rep. of the 1825 Committee. Mr. Finlaison was called before this new Committee, and stated that between the years 1825 and 1827 he had recomputed his T.—being partly induced to take that course in consequence of criticism upon his evidence before the Committee of 1825. In his second investigation he followed two methods of inquiry of which we shall have occasion to speak later; and he says: "The conclusion to be drawn from the whole has been, that the law of mort., as originally stated by me, is confirmed in every part, and in every particular upon each sex, as nearly as could with any reason be supposed;" for example, if by the first obs. an annuity to a male at any period of human life was found to cost £100, the same annu. would, by the second observation, at every period of life come within 15s. of that price. Fifteen shillings in the hundred pounds is therefore the extreme difference between the two T. as far as regards the male sex, which is so small as to be scarcely worth mention-

ing. In regard to the female sex, the difference is much the same at all periods under the age of threescore. From thence to extreme old age, the difference increases very slowly, until it reaches 10 p.c.

By way of explanation of some of the probable causes of this difference—for the original facts had not changed—Mr. Finlaison says: “My second investigation, besides having been, as already stated, conducted on a more elaborate method, was also pursued with infinitely more attention than the first; my first observation terminated in 1821. The materials upon which it was founded consisted of information derived from other people, or the printed lists of the tontines. In the second investigation, however, I took with my own hand from the record, every fact upon which I have reasoned; the dates are all carefully compared and verified, and I am satisfied there is no error whatever in the calculations. It is to be observed also that a great advantage results from having had 5 years more time for the occurrence of mort. among such a very considerable number as about 15,000 persons, most of them of advanced age; and for that reason, if there were no other, the second obs. is exceedingly important. Upon the whole, then, I beg to inform the Committee that the law of mort. as laid down by me in the T. before reported is now to all intents and purposes satisfactorily confirmed.”

1828.—The Rep. of the National, or Parl. Finance Committee contained the following passage—being the first official recognition of Mr. Finlaison’s labours:

Having in the course of their inquiries discovered that the conditions under which the Commissioners of the Sinking Fund are required by the Act for enabling the Commissioners for the Reduction of the National Debt to grant Life Annu. are extremely disadvantageous to the public, they feel it to be their duty to call the immediate attention of the House to the expediency of repealing that Act.

Mr. Geo. Farren pub.: *Letter to the Earl of Eldon on the Rep. of the Finance Committee*, etc., 1828, wherein he commented upon this passage, and gave various examples of the erroneous data upon which Life Annu. had theretofore been granted by the Gov.

There was printed by order of Parl. this year (1828): *Copy of a Letter from Mr. John Finlaison to J. C. Herries, Esq. [Sec. of the Treasury], dated 30th April, 1827, including a Memorandum and Four Tables relative to Life Annu. charged on Sinking Fund by Act 48 Geo. III. (56), small folio.*

The publication here referred to showed that the annuitants of the first year, ending Sept. 1809, had already received back principal and int. of all that they had paid, and *ought therefore in justice to be all dead.* But, far from that being so, 4 out of every 10 were still alive, and likely to live for many years. It also estab. that in 1827 the loss sustained by the public revenue was advancing at the rate of £8000 per week! and it further proved that *this loss was concealed by the method of preparing the yearly accounts.* With this document before them, the Ho. of Commons enacted, by 9 Geo. IV. c. 16 (9 May, 1828), the immediate repeal of so much of the several Acts then in force as empowered the Commissioners of the National Debt to grant Life Annu.

Those who desire further details concerning the action of Parl. at this juncture may consult *Hansard* (vol. xix. p. 50).

1829.—*Mr. John Finlaison’s Completed Investigations.*—There was presented to Parl.: *Rep. of John Finlaison, Actuary of the National Debt, on the Evidence and Elementary Facts on which the T. of Life Annu. are Founded.* This was ordered by the Ho. of Commons to be printed 31 March. The Rep. is addressed to the Hon. the Lords Commissioners of H. M. Treasury; and the following are its introductory passages:

The Rt. Hon. the Chancellor of the Exchequer having signified to me that it was your Lordships’ pleasure that I should prepare, in a proper form, an exact statement of the facts and arithmetical conclusions deduced from the obs. on the mort. of the Nominees in the various Tontines and sets of Life Annu. which have been hitherto instituted or granted by Gov.—*on which service I have been for some time employed under your Lordships’ directions*, as well as in the further service of preparing practical T. of the values of annu. of many different kinds, of which these Obs. constitute the elementary data:

In obedience thereto I have the honour to transmit herewith twenty-two orig. Obs., on each of which the facts or data, and the arithmetical consequences which immediately result from them, are so arranged as to be easily intelligible to all who take any interest in this branch of science. To facilitate the comparison of those arithmetical consequences, I have subjoined two T., one in which such comparisons may be made in reference to the decrement of life at every age; the other (more interesting perhaps to practical men) in which the same comparison may be made by pecuniary results. I have, moreover, prefixed certain explanatory notes, which are necessary for showing the evidence of the truth of the matters contained in the Obs., and the practical consequences which may be deduced from them.

In these, with a view to attain the utmost perspicuity by means of familiar illustration, I have ventured to deviate from the ordinary official style in which your Lordships are properly addressed; and it therefore became necessary to detach them from this Rep. altogether, in the hope that your Lordships would be pleased to receive them merely as the notes of a literary man, and make great allowance for the very short time extended to me for their preparation, etc., etc.

Of these literary notes, or “notes explanatory of the subsequent T.,” it will not be necessary for us here to avail ourselves to any great extent. References to them are made in various parts of this work. His object was to make the assumed working of the “Law of Mort.” clear to the comprehension of the said Lords of the Treasury, or such of them as took any interest in the question. A few points, as bearing upon the authenticity of the data which Mr. Finlaison had at his command, will be of interest:

... No one abandons a life annu., which in practice is always payable twice a year; consequently

if there should be six successive payments unclaimed there is reason to suspect the nominee to be dead, although no such event were reported. The inference however would not be just if a shorter period were fixed on, because many annuitants leave three or four payments overdue. The friends of the nominee in respect of the Life Annu. of the Sinking Fund are allowed a quarter of the annu. on proving the death—so that it is to their interest to report the death as soon as may be. In respect of the Tontines, there is a heavy penalty attaching to the proprietor, or his executors, if they should withhold information of the death. Notwithstanding all this, many deaths are never reported—in which cases I invariably considered the nominee dead who had not been heard of for three years, and assumed the date of death at 3 months after the last payment: a rule which compelled me to terminate my obs. at Oct. 1825, in order to allow the proper lapse of time.

It is frequently, but surely (at least as I humbly conceive) very inconsiderately alleged that nominees may sometimes be fraudulently personated after their death, and the annu. drawn for a series of years. Now bearing in mind that not only once in a lifetime or so, on any great and sudden temptation, but twice in every year deliberately, as long as this is attempted, there is the sin of perjury, the crime of forgery, or felony, to be committed, and the ruinous penalties consequent thereon to be incurred, with a risk of detection which travels very near to the point of absolute certainty. As to *Tontines*, the names, parentage, and residence of the nominees are printed and distributed amongst the shareholders. At long intervals after their formation the survivors are again surveyed, and their names again printed, with their new residence if changed. As every proprietor has thus the means, so it is evidently to his interest to report any death which may come to his knowledge. The criminal who would personate any defunct nominee, before a magistrate and the minister and churchwardens of the very parish in which the deceased had resided, can never be sure therefore that the death is not already reported. All Tontine shares and Life Annu., with few exceptions, concern people in the middling and higher classes exclusively, because of the wealth necessary to procure them—and who of them is so obscure that notice of his decease will not find its way into a newspaper, nor the event be followed by administration? The annu. is either small or large. Unless it be large it were a prodigal expenditure of guilt to incur manifest peril on each poor temptation; if large, then, beyond all question, the nominee, proprietor, or exors. are people of some condition, and no pretence can exist for the suspicion of fraud, deliberately and periodically reiterated. Lastly, the annu., small or great, is either drawn in person or by attorney. The latter would not be trusted with the money if he were not a person of respectability, known to and also knowing well the principal and his concerns from day to day. Nine times in ten they are bankers, who have no interest in, and are besides utterly incapable of aiding and abetting in felony. If drawn in person, the nominee must in a very few years be completely known, as well as his history and connexions, to the clerks and officers of Gov., and to personate him is impossible.

Nevertheless, he admits that there had been a suspicion of personation or other fraud in connexion with the *Irish Tontines*, “the nominees of which were discontented at their own unreasonable longevity, because they would not die off so fast as Dr. Price had predicted.” [IRISH TONTINES.] He also admits that “without the oath and parochial certificate . . . the females might strive hard to understate their age, from vain and foolish, but not corrupt motives, because it is against their interest to do so;” adding in a note, “If this were the proper opportunity, some very ridiculous instances of such contrivance would have been adduced.” He next refers to the circumstances attending the nominees of the Great English Tontine of 1789, concerning which we have already given all necessary details. Then the following:

Wherefore it seems to be sufficiently estab. that either in an Ins. office. . . . or in the Gov. offices (as has in fact been performed by me), and in both equally, it is not a difficult, still less impossible, though certainly a laborious task, to frame with very great, if not perfect accuracy, such a list of nominees as has been contemplated; showing (A) the name (and thereby the sex) of each person alive in the community on a given day, which for example we call the 1st April, 1799; as also the age on that day, or at least on the day of his first admission, from which the age wanted will result; showing (B) the name of each person enrolled in every subsequent year, the date and age when admitted; and noting (F) how many days that date fell short of 1st April . . . ; showing (E) the date of death, if any of those persons in either class had died since April, 1799, or since enrolment; showing (D) (if the case be a deserted [lapsed] ins., which desertion is always a year after the office received the last prem., or at least is of some known period) the date of desertion; lastly, as the party, if neither death nor desertion took place, must be alive at the conclusion of the obs., showing (C) by the absence of any date the persons who thus survive. With these several particulars we certainly shall show arithmetically, by a very simple example, the number at each age which composed the living persons, from among whom the exact number of the deaths which occurred at each age could by possibility have happened; and we then can compare those numbers with each other, and ascertain their mut. relation.

In all the Gov. Tontines and sets of Life Annu., excepting those of the Sinking Fund, the particulars B and F have no existence—the parties being enrolled on one and the same day. In the Life Annu. of the Sinking Fund, the facts (A) have no existence, because the parties were all enrolled at different dates posterior to 1st Oct. 1808. Universally in the Gov. Tontines and Annu. the particulars (D) have no existence, because neither a Life nor Tontine Annu. is ever abandoned; and lastly, in one Tontine at least, the facts (C) have no existence, the parties being all dead.

Passing from the particular cases before him to a consideration of the available means of obtaining data respecting the pop. in general, he says:

In regard to obs. on the law of mort., as deduced from statistical materials, whether in a parish, city, or entire kingdom, it seems scarcely necessary to enter into much argument to prove their manifest deficiency for the object proposed. For how can the facts A and C—that is, the census of the town, etc. at the commencement and conclusion of the obs.—be accurately procured? The pop., if they could all be discovered (not an easy matter), have no interest, certainly no inclination, to disclose voluntarily their exact ages. Many of them cannot, or care not to, tell how the fact is, and very few will be found anxious to state it correctly. How can the particulars B and F, which *mutato nomine*, imply the number of births, and also the number of incomers or settlers into the town, etc., with their several ages at the time, be procured? Of the latter no regis. is ever kept anywhere; of the former, it is a matter of such notoriety that the lower orders, although they always perhaps solicit the rite of baptism, will not in many instances take the subsequent trouble of registration, that every clergyman of any considerable parish will bear unequivocal testimony to the fact; and this to say nothing of particular sects.

How are the particulars D to be procured—that is, the number and their exact ages, who have left the town? There is nowhere, and never to be found any information at all on this head. The magnitude of the mass of settlers and families, etc., depends altogether on the fluctuating demand for

their labour there or elsewhere. It is not and cannot be recorded, much less the sex and ages in detail. Finally, are the particulars E of the deaths at every age accurately set forth in the municipal or parish regis. ? No one will affirm or believe such a thing. They are most frequently reported by the sick nurse or undertaker to the parochial authorities, at a time when the family of deceased is in affliction, and the reporters neither know nor care whether the fact be truly represented or otherwise. Many and many a death is never reported at all.

If it be again contended that obs. on statistical B. of Mort. furnish, nevertheless, sufficient approximations to the truth, I would beg leave respectfully to inquire whether any such approximation may not in fact be an approach to some ideal standard of truth existing only in the mind of the calculator, rather than in the truth itself, of which perhaps no certain criterion has heretofore been discovered.

It is not in the power of man to get at those facts in every instance with mathematical precision—very difficult to procure them on a great scale . . .

These obs. were justified by the circumstances of the period. They were important as showing the reporter's appreciation of what was required in the way of data on which to base scientific deductions on the subject of mort. It was from the fact being known, that all such considerations had been duly taken into account, that so much value was attached to Mr. Finlaison's T. We have next to learn the precise details of the process he followed in preparing his T.

He personally extracted from the Registers of the several Tontines and sets of Exchequer and other annuitants, already referred to, all particulars corresponding to the requirements he has indicated as essential. And to prevent the prob. of error, he tabulated the data in duplicate lists, in view of the discovery of any discrepancies by the simple process of comparison. He treated the nominees of each separate Tontine and of each set of Exchequer Annuitants as a separate community, of which he was engaged to take the census as on a particular day. He had gone through the process up to Oct. 1822 for the purpose of the T. he had prepared at the end of 1823. He now went over them all again "with far greater care" in bringing the obs. up to Oct. 1825. In the end there were produced 6 T. of orig. obs., embracing a total of 22,352 lives observed upon.

Regarding the possibility of errors, even where the clerical portion of the work was executed with the care already indicated, Mr. Finlaison himself says :

Unfortunately the record itself is scarcely ever so minutely correct as to admit of absolute perfection. It is impossible in all cases to be quite sure that the parties set down as dying in a certain year of age, might not, some very few of them, have died the year before or after. Again, when the number of lives in a So., Tontine or community, are not very considerable, aberrations will happen. From a series of sickly seasons, with, it may be, a prevailing malady affecting more severely some particular stage of existence than some other [sic], the deaths may occasionally be in clusters, all signs of which would have disappeared or become submerged in an obs. on greater numbers and over a greater length of time; *vice versa*, it may chance that for some years, in early life more especially, during a course of healthy seasons, the mort. runs so low as to be quite incredible (as a measure of the rate happening to larger masses through a greater variety of years): finally, in this, as in most other physical researches, there are few experimentalists who have not perhaps now and then, if they would own it, some reason to deplore the imperfection of their means of obs. To counteract any such aberrations, and to present in every case a uniform tendency of the apparent law of nature rather than the mere arithmetical prob. resulting from the actual numbers in each particular instance, I have tried many methods of adjustment with some more or less success; and if with some diffidence I submit the following, which is not pretended to be unobjectionable, the reason is that while it was found much the easiest in practice, it is at the same time so far well founded in truth as prob. to satisfy the experienced calculator; there can indeed be small doubt that it is sufficiently effectual for the purpose. . . .

He then sets forth (p. 10) the mathematical process he had adopted.

Another disturbing influence had next to be considered and dealt with. Mr. Finlaison thus describes the difficulty and the mode of overcoming it (p. 11) :

It is very important to observe, that in transactions of this kind [Life Annu.] as well as in Tontines, nothing is more common than that one capitalist should possess very many shares or separate annu., and that he should sometimes nominate one person, a favourite child, or other relative, as the nominee of several shares. And supposing he were to nominate a different person for every share, if any of his kindred were concerned in the same loan, they are as likely as himself to fix on his nominee for their shares: whereby, unless the utmost care were taken, it would happen that one and the same nominee might be counted as two, three, or more separate lives. The Exchequer annu. alone contained 260 repetitions of this sort; and in the Life Annu. of the Sinking Fund there are a vast many more. For in these the annuitant begins with a small annu., and then purchases another, and a third, as his means will allow. In the latter also it is very remarkable that the females very greatly predominate—there having been no less than 4815 females, and only 2077 males: that is, as near as can be, 7 women to 3 men. The like repetition of several pol. on the life of one and the identical party occurs at every ins. office. To prevent the possibility of counting the same person twice over, and to secure perfect accuracy in computing their ages at the time of death, or (if alive) at the time of concluding the obs., a card or time-table for each Tontine or set of annuitants was prepared, showing mechanically how many years, months, and days, from the institution of every such community to any other subsequent date. The number was carefully annexed to every date implying a death, and to each nominee surviving to Oct. 1825. The age at enrolment being added to the number thus annexed, the result of course gave the precise age either at death or at the time of so surviving.

The duplicates could in this manner be eliminated; but if, as sometimes, though rarely, happened in the Tontines, among the younger classes the age by some neglect had been omitted to be posted, the name was invariably struck out of the list altogether. In regard to the annu. of the Sinking Fund, all those who were enrolled in the same year were considered a separate community. The year was made to commence on 1st Oct., and the time lost from this date to the subsequent date of entry was moreover carefully prefixed to the name of every nominee.

The whole of the lists of the separate communities being thus perfected in each particular, were transcribed into two general lists of all the nominees; *one as the dead*,

in the strictest chronological order; *the other of the living*, exactly in the order of seniority. *By these means it could not fail to appear, if two persons of the same age, sex, and name, had either died on the same day, or remained alive at the same time; and the point of their identity was set at rest by reference to the certificate of baptisms, the history of their parentage, residence, etc.* Not only were the lists thus cleared of mistakes from the same name appearing twice in any one community, or once only in the *same*, but repeated at an advanced age in various *subsequent* communities—a thing not unfrequent, “as many families have a singular predilection for these financial speculations.” By means of these lists it was ascertained as beyond question that longevity does prevail in a marked degree in some families (p. 11).

Mr. Finlaison pointed out that he had in his present inquiry no means of knowing from facts the mort. from birth to 1 year old, and very imperfectly under the age of 3, “because people do not nominate lives in extreme infancy as the subject of Tontines.” He pointed out that his Obs. were restricted to lives residing in the British Empire [with the exception, we suppose, of a small number of Dutch nominees]; but that the results were not restricted to the pop. of a particular town, city, or district of England; but was applicable on the contrary to persons spread over every part of the kingdom: “a large portion, however, being naturally inhabitants of towns, from their having yearly incomes to live on, which infer the means of easy intercourse in society.” Whether the rate of mort. varied in England according to local circumstances was not yet certainly known. His Obs. had been restricted to the higher and more affluent orders, “comprising, in fact, the vast majority of those who have any concern with pecuniary transactions depending on the tenure of life” (p. 15).

There are some other conclusions from Mr. Finlaison’s inquiries which have already been, or will hereafter be spoken of under the special titles to which they more particularly relate. Thus the marked superiority of the female over the male lives under obs. has been exemplified under FEMALE LIFE. His belief in the lessened rate of mort., or consequent increased duration of life, will be exemplified in his own method under LONGEVITY. In support of his conclusions generally it has to be remembered that during a period of 10 years he had unrestricted access to the Regis. and other records relating to the class whose mort. or vitality he was investigating. In the later portion of his labours at least he had well-trained assistants, and all the advantages which his official position could command. His pub. Rep., which occupied some 50 folio pages, was understood to embrace but a very limited portion of the entire results of his inquiries; and the circumstances surrounding the case caused perhaps greater and more prolonged attention to be given to it than had been bestowed upon any one official document previously. In these several regards it has claimed our attention here.

The separate T. in this Rep. of 1829—designated by Mr. Finlaison “Observations”—are the following:

1. On the Mort. of the Nominees of the English Tontine commencing in July, 1693 [set on foot in 1692], consisting of 1002 persons, the last dying in 1783—extending over a period of 90 years.
2. On the Mort. of the Nominees of certain Life Annu. issued at the Exchequer in 1745, 1746, 1757, and a few in 1766, 1778, and 1779—in all 2552 lives; of whom 156 still survived in January, 1826.
3. On the Mort. of the Nominees of the Three *Irish Tontines* begun in the years 1773, 1775, and 1778 respectively—3557 lives, of whom 1564 survived in January, 1826.
4. On the Mort. of the Nominees selected by the Contributors to the Gt. English Tontine begun in 1789—3518 lives, of whom 2203 survived in January, 1826.
5. On the Mort. of the Nominees (chosen by lot) on behalf of the Gov. in the Gt. English Tontine of 1789—4831 lives, of whom 3008 survived in January, 1826.
6. On the Mort. of both Classes of the Gt. Tontine of 1789, combined together after the age of 50—both sexes.
7. On the Mort. of the Nominees of Life Annu. chargeable on the Sinking Fund, issued in 1808, and in every subsequent year—6892 lives, of whom 5344 survived in Jan. 1826.
8. On the Mort. of the whole of the *Female* Nominees in the 7 preceding Obs., taken by themselves—13,005 lives; 7798 survivors. [*Note*.—Mr. Jardine Henry’s Tables are founded upon the results of this and Obs. No. 15.]
9. On the Mort. of the *Females* of the Tontine of 1693, combined with the *Females* of the Exchequer Life Annu. of 1745, etc.—2032 lives; 120 survivors in January, 1826.
10. On the Mort. of the *Females* of the Exchequer Life Annu., combined with the *Females* of the Three *Irish Tontines*—3695 lives; 1109 survivors in January, 1826.
11. On the Mort. of the *Females* of the Three *Irish Tontines*, combined with the *Females* of both Classes of the Tontine of 1789, and also with the *Females* of the Sinking Fund—10,973 lives; 7678 survivors in January, 1826.
12. On the Mort. of the *Females* of both Classes in the Tontine of 1789, combined with those of the Sinking Fund only—8884 lives; 6689 surviving in January, 1826.
13. On the Mort. of the *Females* of the *Irish Tontines*, of the Tontine of 1789, and of the Sinking Fund, as observed at the end of the year 1822; but the prob. of life corrected by a different method from that of the preceding Obs.

N.B.—“*This is the original Obs. by which all the T. on Life Annu. [for Females] hitherto computed for the service of the Gov. have been in fact constructed.*”—See 1823. [Mr. A. G. Finlaison adopted for the annu. portion of the Post Office Ins. scheme of 1864 rates deduced from this data and that of Obs. No. 20.]

14. On the Mort. of the *Female* Nominees of the Life Annu. of the Sinking Fund entirely by themselves—4815 lives; 3860 survivors in January, 1826.
15. On the Mort. of the whole of the *Male* Nominees in the 7 preceding Obs., taken by themselves—9347 lives; 4477 surviving in January, 1826. [See note on Obs. No. 8.]
16. On the Mort. of the *Males* of the Tontine of 1693, combined with the *Males* of the Exchequer Life Annu. of 1745, etc.—1522 lives; 36 survived in January, 1826.
17. On the Mort. of the *Males* of the Exchequer Life Annu., combined with the *Males* of the Three Irish Tontines—2414 lives; 611 survived in January, 1826.
18. On the Mort. of the *Males* of the Three Irish Tontines, combined with the *Males* of both Classes of the Tontine of 1789; and also with the *Males* of the Sinking Fund—7825 lives; of whom 4441 survived in January, 1826.
19. On the Mort. of the *Males* of both Classes of the Tontines of 1789, combined with those of the Sinking Fund only—6339 lives; 3866 survivors in January, 1826.
20. On the Mort. of the *Males* of the Irish Tontines, of the Tontine of 1789, and of the Sinking Fund, as observed at the end of the year 1822; but the prob. of life corrected by a different method from that of the preceding Obs. [except No. 13].

“N.B.—This is the orig. Obs. by which all the T. of Life Annu. [for Males] hitherto computed for the service of the Gov. have been in fact constructed.”—See 1823. [The Annu. rates for the Post Office Ins. scheme of 1864 were framed by Mr. A. G. Finlaison upon the data of this and No. 13 Obs.]

21. On the Mort. of the *Male* Nominees of the Life Annu. of the Sinking Fund, entirely by themselves—2077 lives; 1484 survived in January, 1826.

Mr. Hendriks states that the total number of lives brought under obs. in the preparation of this new T. brought into use in 1829 were the following (vide *Journ. of Statis. So.* vol. xix. p. 346):

Class.	Number of Lives.	Deduct Living in 1826.	Complete Obs.	Incomplete Obs.
The Three Irish Tontines of 1773, 1775, and 1778	3557	1564	1993	1564
Tontine of 1789, viz. Contributors' Nominees	3518	2203	1315	2203
Government ditto	4831	3008	1823	3008
Sinking Fund Annuities from 1808 to 1826	6892	5344	1548	5344
Totals	18,798	12,119	6679	12,119
			18,798	

Remarking hereon, in explanation :

The new calculations which were made the basis of the rates intro. by this measure [Act of 1829] were not formed upon a larger number of *complete* obs. than 6679. By complete obs. is here meant lives entered upon the Gov. books as annuitants, and remaining on those books until the dates of their death—such dates of death being prior to the ultimate date to which the obs. extended. To the number just mentioned may be added 12,119 incomplete obs., by which is here implied lives entered upon the Gov. books as annuitants, and remaining on those books, as still living, at the ultimate date to which the obs. extend. The intro. of so many incomplete obs.—nearly two-thirds of the whole number of obs.—had the effect of very much marring the degree of reliability to be placed upon the deductions therefrom, at the more advanced periods of life; the result being to increase the liability to error, in under-estimation of the vitality at such periods, as practically indicated by comparatively high rates of annu.

It is to be noticed that none of these several Obs. were reduced into the form of Mort. T., as then and now understood. They were something more than merely elementary T.; but the col. of “expectation”—so valuable for the purpose of comparison of results—was absent in every instance. It may have been, in part at least, this circumstance which induced Mr. Francis Corbax, a well-known writer on Political Arithmetic, to present a petition to the House of Commons praying that money values deduced from these Obs. might not be sanctioned by that House until the results of Mr. Finlaison had received confirmation by some competent authority—a step which, however, the House did not take. This petition will be again referred to later.

The Rep. of Mr. Finlaison included some further T. illustrative of the Law of *Sickness*, and of the Law of Mort., not material to our present purpose—the former in fact have already been given under FRIENDLY SOS., MORT. AND SICKNESS EXPERIENCE OF; the latter will be dealt with under MORT., LAW OF. There was also given (pp. 64, 65) a “T showing the value of a Life Annu. of £1000 a year, if purchased at each of the under-

mentioned ages, as deduced from the following obs. respectively [those mentioned in the head-lines of the T.] assuming in all cases the interest of money at 4 p.c."

The Obs. in the preceding summary which are of the most permanent interest are Nos. 8, 13, 15, and 20—but Nos. 13 and 20 are understood to be identical with those from which the Mort. T. we have given in abstract under date of 1823 is compiled; and from these alone were deduced the new scale of money values commenced to be charged in 1830. There is a general belief that Obs. No. 13 exaggerated the value of Female Life unduly. The difference between the value of Male and Female Life throughout these Obs. generally has been noted under FEMALE LIFE. The interest especially attaching to Obs. Nos. 8 and 15, is that it is from these Mr. Jardine Henry has constructed his extensive T. pub. respectively in 1859 and 1873—to be hereafter spoken of in more detail.

As a matter of convenient reference at this point we have compiled from Mr. Henry's T. issued in 1859 the following T. of Male and Female Life, as deduced from Obs. Nos. 15 and 8—which require to be read in the light of the following explanation given in the preface of vol. i. (1859), p. xviii:

In reference to T. I. and V. of Appendix—pages 756 and 762, being Obs. 15 and 8 of Mr. Finlaison's Rep. and forming the basis upon which the T. have been calculated—it may be remarked that a few trifling differences will be found on comparing them with the actual T. given in Mr. Finlaison's Rep. of March, 1829. The cause of these differences is the few unimportant corrections that were required to be made in the T. of Mr. Finlaison's Rep., arising from minute errors discovered by forming the T. in Obs. 15 and 8 anew, from the separate obs. of each Tontine given previously in the Rep., and by checking each separate obs. independently from the materials furnished by Mr. Finlaison. The very small errors existing in Obs. 15 and 8 were thus rectified, and the Radix T. formed from the Obs. were rendered accurate—a matter indispensable in T. forming the basis of extensive calculations.

Mort. of Government Annuityants—MALE and FEMALE—deduced from Mr. Finlaison's data (1829)—Observations No. 15 (Male) and No. 8 (Female)—by Mr. Jardine Henry.

Age.	MALES.				FEMALES.				Age.
	Living.	Dying.	Prob. of Living a Year.	Expec.	Living.	Dying.	Prob. of Living a Year.	Expec.	
0	100,647	16,037	·84066	41·885	97,544	12,934	·86740	46·993	0
1	84,610	2782	·96712	48·729	84,610	1120	·98676	53·101	1
2	81,828	1214	·98517	49·369	83,490	1470	·98240	52·868	2
3	80,614	973	·99433	49·105	82,020	1457	·98225	52·743	3
4	80,156	515	·99357	48·383	80,563	824	·98976	52·687	4
5	79,641	544	·99361	47·691	79,739	726	·99090	52·227	5
6	79,097	617	·99220	47·017	79,013	783	·99008	51·702	6
7	78,480	570	·99273	46·382	78,230	583	·99254	51·216	7
8	77,910	493	·99369	45·718	77,647	443	·99431	50·598	8
9	77,417	635	·99179	45·005	77,204	351	·99545	49·884	9
10	76,782	558	·99273	44·373	76,853	315	·99591	49·509	10
11	76,224	368	·99518	43·696	76,538	322	·99580	48·310	11
12	75,856	374	·99506	42·905	76,216	356	·99531	47·512	12
13	75,482	457	·99396	42·116	75,860	449	·99421	46·733	13
14	75,025	521	·99305	41·368	75,421	514	·99318	46·002	14
15	74,504	329	·99559	40·653	74,907	565	·99245	45·315	15
16	74,175	488	·99341	39·832	74,342	587	·99211	44·654	16
17	73,687	784	·98937	39·093	73,755	598	·99190	44·006	17
18	72,903	860	·98819	38·508	73,157	639	·99127	43·361	18
19	72,043	841	·98833	37·961	72,518	643	·99113	42·739	19
20	71,202	979	·98626	37·404	71,875	604	·99159	42·116	20
21	70,223	1087	·98451	36·918	71,271	593	·99168	41·470	21
22	69,136	1198	·98412	36·492	70,678	602	·99149	40·814	22
23	68,038	1125	·98347	36·071	70,076	576	·99177	40·159	23
24	66,913	965	·98558	35·670	69,500	688	·99154	39·489	24
25	65,948	862	·98694	35·185	68,912	641	·99072	38·821	25
26	65,086	959	·98526	34·644	68,271	665	·99026	38·180	26
27	64,127	948	·98551	34·155	67,606	641	·99051	37·550	27
28	63,179	837	·98648	33·650	66,965	631	·99058	36·907	28
29	62,343	743	·98808	33·103	66,334	589	·99111	36·251	29
30	61,600	704	·98760	32·497	65,745	662	·98994	35·573	30
31	60,836	826	·98642	31·899	65,083	774	·98810	34·929	31
32	60,010	866	·98742	32·332	64,309	739	·98851	34·344	32
33	59,254	715	·98794	30·724	63,570	658	·98965	33·737	33
34	58,539	584	·99001	30·094	62,911	564	·99104	33·058	34
35	57,955	604	·98958	29·391	62,347	556	·99108	32·104	35
36	57,351	729	·98730	28·697	61,791	617	·99001	31·667	36
37	56,622	793	·98598	28·059	61,174	724	·98817	30·480	37
38	55,829	772	·98617	27·450	60,450	742	·98771	30·345	38

Age.	MALES.				FEMALES.				Age.
	Living.	Dying.	Prob. of Living a Year.	Expec.	Living.	Dying.	Prob. of Living a Year.	Expec.	
39	55,057	847	'98462	26'829	59,708	672	'98876	29'717	39
40	54,210	838	'98453	26'241	59,036	766	'98703	29'049	40
41	53,372	733	'98628	25'644	58,270	686	'98821	28'424	41
42	52,639	757	'98562	24'993	57,584	618	'98928	27'757	42
43	51,882	748	'98558	24'352	56,966	647	'98862	27'053	43
44	51,134	740	'98553	23'700	56,319	621	'98899	26'359	44
45	50,394	632	'98746	23'040	55,698	716	'98714	25'647	45
46	49,762	596	'98801	22'328	54,982	728	'98676	24'975	46
47	49,166	608	'98764	21'592	54,254	817	'98494	24'302	47
48	48,558	665	'98630	20'856	53,437	886	'98342	23'166	48
49	47,893	820	'98288	20'139	52,551	848	'98388	23'056	49
50	47,073	867	'98159	19'481	51,703	727	'98594	22'426	50
51	46,206	930	'97987	18'837	50,976	639	'98746	21'740	51
52	45,276	1053	'97674	18'213	50,337	682	'98446	21'009	52
53	44,223	1085	'97546	17'635	49,555	819	'98347	20'333	53
54	43,138	1023	'97629	17'066	48,736	869	'98218	19'666	54
55	42,115	1024	'97569	16'469	47,867	945	'98026	19'014	55
56	41,091	1090	'97346	15'867	46,922	881	'98121	18'387	56
57	40,001	1059	'97353	15'285	46,041	928	'97985	17'729	57
58	38,942	1072	'97248	14'687	45,113	962	'97868	17'083	58
59	37,870	1148	'96968	14'089	44,151	835	'98109	16'445	59
60	36,722	1281	'96512	13'514	43,316	955	'97796	15'752	60
61	35,441	1333	'96239	12'984	42,361	1128	'97335	15'096	61
62	34,108	1277	'96254	12'472	41,233	1056	'97441	14'496	62
63	32,831	1438	'95620	11'938	40,177	1165	'97100	13'863	63
64	31,393	1292	'95885	11'462	39,012	1253	'96788	13'262	64
65	30,101	1272	'95775	10'933	37,759	1236	'96728	12'686	65
66	28,829	1455	'94953	10'392	36,523	1291	'96465	12'098	66
67	27,374	1417	'94822	9'919	35,232	1325	'96239	11'523	67
68	25,957	1626	'93737	9'433	33,907	1475	'95649	10'954	68
69	24,331	1757	'92779	9'029	32,432	1556	'95203	10'429	69
70	22,574	1699	'92474	8'694	30,876	1545	'94997	9'930	70
71	20,875	1495	'92837	8'301	29,331	1591	'94576	9'426	71
72	19,380	1552	'91992	7'967	27,740	1653	'94039	8'938	72
73	17,828	1552	'91296	7'617	26,087	1668	'93607	8'473	73
74	16,276	1329	'91833	7'295	24,419	1720	'92957	8'017	74
75	14,947	1240	'91704	6'900	22,699	1715	'92444	7'587	75
76	13,797	1385	'90625	6'479	20,984	1684	'91975	7'167	76
77	12,422	1258	'89873	6'097	19,300	1846	'90436	6'748	77
78	11,164	1191	'89333	5'728	17,454	1701	'90253	6'409	78
79	9,973	1247	'87595	5'352	15,753	1473	'90650	6'047	79
80	8,736	1247	'85725	5'039	14,280	1842	'87100	5'619	80
81	7,489	1186	'84165	4'795	12,438	1708	'86268	5'377	81
82	6,303	980	'84452	4'603	10,730	1376	'87177	5'154	82
83	5,323	726	'86359	4'358	9,354	1389	'85151	4'838	83
84	4,597	702	'84731	3'968	7,965	1123	'85899	4'595	84
85	3,895	825	'78819	3'592	6,842	966	'85882	4'267	85
86	3,070	717	'76644	3'423	5,876	976	'83391	3'886	86
87	2,353	519	'77944	3'314	4,900	850	'82653	3'560	87
88	1,834	382	'79172	3'111	4,050	775	'80863	3'203	88
89	1,452	368	'74655	2'798	3,275	913	'72122	2'842	89
90	1,084	332	'69373	2'579	2,362	787	'66681	2'748	90
91	752	278	'63032	2'495	1,575	525	'66667	2'871	91
92	474	68	'55654	2'665	1,050	181	'82762	3'056	92
93	406	68	'83251	2'027	869	237	'72728	2'589	93
94	338	150	'55621	1'334	632	277	'56171	2'372	94
95	188	94	'50000	.....	355	118	'66761	2'832	95
96	94	94	.....	'500	237	40	'83123	2'994	96
					197	39	'80203	2'500	97
					158	40	'74683	1'994	98
					118	41	'66950	1'500	99
					79	40	'49366	'994	100
					39	39	.....	'500	101

There is a note that the numbers of male and female children respectively newly born (of the age 0) were derived from the *English T.* No. 1.

The amount of capital stock of various denominations trans. to and cancelled by the National Debt Commissioners on account of Life Annu. granted between the years 1808-29 was £10,919,000, which by additions of interest and other points of financial manipulation involved in the process was made up as a matter of account to £11,855,000. The loss on this dealing was about £3,124,000—being about 29½ p.c. loss on all the cap. stock trans. or cancelled upon the purchase of Life Annu. 1 This was in a period of 24 years and 4 months, up to 5th January, 1829. [We ought to add, the authorities at the National Debt Office do not recognize, much less admit the accuracy of the methods by which these results were arrived at.] But Mr. Hendriks, from whose investigations we obtain these figures [see 1856], adds this important remark thereon (p. 343):

In the absence of any publication, or of any data for the ascertainment of the *Vital Statis.* of the Gov. Life Annu., it is impossible to say how much of this loss arose from the errors in the calculation of the *T.* as regarded the value of life (taking into proper consideration the limits which to a certain extent existed in modification of those errors), or how much of the loss in question arose from the real defects in the principles upon which the Gov. has during the last half century embarked in the speculation of Life Annu. bus., without the power of conducting such a bus. on the principles which ordinarily regulate such a measure of finance when conducted by trading bodies or individuals. But that the loss has in a large measure arisen from those inherent defects in principle will the more clearly appear when we extend our obs. to what has taken place since 1829, and down to the present time.

The view here expressed is undoubtedly justified by the fact that the losses in connexion with Life Annu. by no means ceased on the adoption of the new *T.* this year (1829). See 1856. Mr. Hendriks further expresses a strong view that up to this date the loss had resulted upon young rather than the older annuitants (p. 332), thus:

The errors of the *T.* against the Gov., and the taxed public, and in favour of the annuitant who became a charge upon them, were thus in the inverse proportion to the age of the nominee: in other words, the younger the annuitant, the greater the loss. It is of some importance to keep this in mind, as it is a commonly received opinion that the contrary rule prevailed, and that the older the life, the greater was the loss.

Even Mr. McCulloch, in his *Treatise on Taxation*, had expressed the latter view. In the absence of adverse selection, Mr. Hendriks considers a profit might be made on the rates charged for annu. from 70 to 75 and upwards (p. 331).

It is historically interesting to be enabled to state that the Institute of France took considerable interest in the inquiries upon which Mr. Finlaison was engaged. The Academy of Sciences transmitted many questions on the subject for his consideration; and in return for the information contained in his answers, he received a letter of thanks.

Criticisms upon Mr. Finlaison's Obs.—We now propose to pass under review the criticisms which have been offered upon the Gov. *T.* as prepared by Mr. Finlaison, taking them in their chronological order.

Dr. Thomas Young, in a paper pub. in *Phil. Trans.* for 1826 (p. 287), on *A Formula for expressing the Decrement of Human Life*, reviewing various data relating to mort., said:

... Mr. Finlaison's *T.*, therefore, although they may be extremely just and valuable for the purpose of setting a price upon Annu. to be granted on the lives of proposers, cannot with any prudence be adopted when the parties concerned have an interest in offering the worst lives that they can find, notwithstanding any partial security that might be afforded by the exercise of medical skill in their rejection; and if it is true that some of the Tontines were principally filled by lot (*Rep.* p. 16) with the children of country clergymen and magistrates, it must still be supposed that the families of such persons may have been more healthy than the average of the pop. of Lond. and the country taken together.

Sir John Lubbock, in his paper, *On the Comparison of various T. of Annu.*, read before the Philosophical So. of Cambridge in 1829, says:

Mr. Finlaison has recently pub. extensive *T.* of Mort. formed from the Gov. Tontines and Annu., which are rendered equally valuable by the accuracy of the materials from which they have been deduced, and the very great care and attention which has been bestowed on them by the author. . . .

Obs. such as those presented by Mr. Finlaison, where the deaths are given at every age, are particularly well calculated to determine delicate points, such as any small increase of the rate of mort. at different ages. A small increase of mort., according to Mr. Finlaison's *T.*, takes place about 23; thus in Obs. 19 (p. 56) it appears that there is a minimum mort. at 13, a maximum at 23, and a minimum again at 33. This does not obtain in Mr. Finlaison's obs. on *females*. It is very remarkable that the same circumstance is to be observed in the *Chester T.*, though here it is found equally in the *T.* for males and females. . . .

However accurate the obs. be upon which Mr. Finlaison's results are founded, it must be recollected that the lives were selected from a selected class; and it remains to be shown that the mort. in the lower classes of society is the same as in the higher, and that selection produces no effect on the results.

Mr. T. R. Edmonds, in his *Life Tables*, etc., 1832, says:

The value of this *T.* depends, in a great measure, on the truth of the assumption that "selection" produces no sensible effect; in other words, that there exist no means of distinguishing a good life from a bad one. My opinion is entirely opposed to such a position. . . . When the admissions take place at all ages, and at various times, as is the case with Gov. Annuitants, no useful result is to be expected from a comparison in the gross of the number living and dying in any interval of age, without any regard to the time each individual has belonged to the So. The point on which the Gov. *T.* opposes my theory, as well as that of every other person, consists in declaring that, from the age of 20 to 45, the force of mort. does not increase with the age; it even goes so far as to show that a man's chance of living 1 year increases in that period. A *T.* of Mort. of French Annu. presents an appearance of the same anomaly, though less in degree. . . . Possibly the cause of this anomaly may be found in

the falsification of ages, the above period being that in which people are most tempted to represent themselves as younger than they really are.

Mr. Francis Corbaux, in his work on *Pop.* pub. 1833 (p. 104), offers the following obs.: "It is not our purpose unnecessarily to dilate on the numerous Mort. T. of which the public is already in possession. . . . In the number of those T. however, are two, constructed by Mr. Finlaison, and respectively referred to the discriminated sexes, as also understood applicable to the specific class of Life Annu. and Tontine nominees. They having been admitted, as a law of the land, to serve as regulators of the valuation of Life Annu. thenceforth to be granted by the Exchequer of this country; and the writer of these pages having conceived proper, at that time, to warn the legis. against blindly adopting a measure of such nature and importance, without previously obtaining the opinion of a plurality of persons competent on a matter of their department; it becomes the more imperative on him here to assign his principal objections to those T., as—in disregard of his petition hereafter transcribed—the ministerial influence obtained a Bill to pass sanctioning such a practical application of Mr. F.'s tables as they are unlikely to meet anywhere else."

The petition here referred to has already been mentioned. It is a document of great interest, and will be referred to in some detail under MORT., LAW OF. The reasons which, in his work now under notice, he assigns for repudiating the value of Mr. Finlaison's Obs. may be, in their essential points, summed up as follows:—1. Because the absolute intensity of female life is there exhibited in a very exaggerated excess of 57 years over that of male life; although the question is concerning a class of select lives, which admits only a minimum of superior intensity possessed by the former sex, or at the utmost an excess of 3 years. 2. Because the collective intensity, in regard to one and to the other sex, is exhibited as invariably decreasing from the very first year of existence; although an increase, during the first 5 or 6 years, at least, is an incontestable result of the vitality's rapidly progressive consolidation after that first year; but which progression has never failed to become manifest, according to experience, proved by every one of the Mort T. hitherto constructed, except these two only. 3. Because the specific intensity of life is there presented, regarding the males as even 9 times greater for the interval separating the second from the third year of existence, than it is for the immediately preceding interval, or that from the first year to the second; being a most unaccountable and utterly inadmissible disproportion, to whatsoever minima such intensity might by possibility be reduced for the first year of life—as also for the respective sexes—and to whatsoever maxima it might upon justifiable grounds be elevated for the second year, especially with reference to a select class. "It should, however, be remarked (continues Mr. Corbaux) that those T. have left entirely out of consideration every result concerning such first year of existence," etc. 4. Because, under the admission of those supplementary results—without which, and if more elevated intensities were introduced for that specific year, this fourth ground of objection would acquire but greater force—it is made to appear that one-half of all females born, of the class referred to, attain the comparatively advanced age of 57½ years, whilst a similar proportion of the males appeared to outlive the 48th year of their age only. . . . And so on until in the whole twelve objections are exhausted. The disparity between male and female life being the chief point at which the criticism is aimed.

Mr. Milne, in his art. "Mort., Human," pub. in the *Ency. Brit.* 1837, says: "These, from the number and accuracy of the data, are more valuable than anything of the same kind that had previously been pub."

In this same year (1837) a number of the leading actuaries prepared a memorial to the H. of Commons, praying that orders be given for the pub. of all T. founded upon the same data "as those upon which the Gov. now grant annu. on lives," etc. See EXPERIENCE T. OF MORT. (GENERALLY).

Mr. T. R. Edmonds this year contributed to the *Lancet* a paper: *Defence of an Art. in the "Brit. Medical Almanack" entitled National Statistics*, which we shall notice in a later portion of the present art. [see 1830]. In another paper, also in the *Lancet*, *On the Duration of Life in the English Peerage*, there occurs the following passage:

In the English Gov. Annu. Office there prob. exists an abundance of materials, if properly classified, for determining the average mort. of persons in easy circumstances. The leading principle of such classification ought to be, the separation of the mort. of newly-admitted members from that of the anciently-admitted members. The mort. of all members or annu. of more than 20 years standing would prob. afford a good measure of the mort. in England among a part of the pop. in easy circumstances.

Mr. Sang, in 1841, drew attention to the fact that the male lives selected from the Gov. Annu. were much worse than the average male pop. of the kingdom, particularly at ages under 25. Looking to the cause of this, he says, it may, no doubt, be attributed to the want of regular labour, and to the pampered style of living of the richer classes. The constitutional effect of early irregularities (he continues) seems to influence the remainder of life; for after age 30, when the mode of living may be supposed to have become sobered, the line still continues, though at less distance, below that for the average pop. Between ages 20 and 30, a great improvement may be remarked. The expc. of life by the females of the wealthier classes is, on the other hand, decidedly, though not much, greater than by the mass of the female pop.: a circumstance that seems to indicate that women enjoy prosperity much more moderately than men do, and that they use the advantages

of their situation in a proper way for the improvement of their health, and consequent increase of their happiness. Taking both sexes into account, Mr. Sang considers that one may feel warranted in stating that if health and longevity be an index of happiness, a greater share of that so much desired good is enjoyed by the working pop. (the middle class generally) than by those who have been more favoured with the smiles of fortune.

In the 5th Rep. of the Reg.-Gen. pub. 1843, wherein the *English Life T.* No. 1 is first given, there was contained the following comparative T. of the Expec. of Life among annuitants and persons whose lives were assured in the offices named :

AGE.	English Life T. (No. 1).	French Annuitants (Déparcieux).	English Annuitants (Finlaison).		Equitable Experience (Morgan).	Amicable Experience (Galloway).	English Life T. No. 1.
	Persons. [Males and Females.]	Males and Females, proportion not stated.	Males.	Females.	Males (chiefly).	(Nearly all) Males.	Males.
5	50'0	48'3	48'9	54'2	.....	.....	49'6
10	47'4	46'8	45'6	51'1	48'3	.....	47'1
15	43'7	43'5	41'8	47'2	45'0	.....	43'4
20	40'3	40'3	38'4	44'0	41'7	.....	39'9
25	37'0	37'2	35'9	40'8	38'1	37'8	36'5
30	33'7	34'1	33'2	37'6	34'5	33'7	33'1
35	30'4	30'9	30'2	34'3	30'9	29'7	29'8
40	27'1	27'5	27'0	31'1	27'4	25'9	26'6
45	23'9	23'9	23'8	27'8	23'9	22'4	23'3
50	20'6	20'4	20'3	24'4	20'4	19'0	20'0
55	17'2	17'3	17'2	20'8	17'0	15'8	16'7
60	14'0	14'3	14'4	17'3	13'9	12'9	13'6
65	11'2	11'3	11'6	14'0	11'1	10'3	10'9
70	8'8	8'7	9'2	11'0	8'7	8'1	8'5
75	6'7	6'5	7'1	8'5	6'6	6'3	6'5
80	5'1	4'7	4'9	6'5	4'8	4'9	4'9
85	3'8	3'2	3'1	4'8	3'4	3'7	3'6
90	2'7	1'8	2'0	2'8	2'6	2'7	2'7
No. of Deaths, on which the T. were calculated	343847	7933	.....	.....	5144	1792	174198
Years. ...	1841	1690-1742	.....	.....	Sept. 1762, to 1st Jan. 1829.	5th April 1808-1841	1841

The following explanatory remarks were offered thereon (pp. 30-32) :

This T. shows the expec. of life among annuitants in the 18th and 19th centuries, and of persons whose lives were assured in the *Amicable* and *Equitable* Sos. during the present or at the close of the last century. The duration of life among the Gov. annuitants is also given. The persons upon whose lives annu. were purchased in England and France were generally selected healthy lives: the *Amicable* and *Equitable* Sos. only assure persons who are considered by their medical officers to be healthy, when policies were applied for. The mort. in the first year after entry is therefore much below the average; and the selection of healthy persons has a tendency to extend the expectation of life in the early or middle ages when people assure their lives or purchase annu. . . . On the other hand, there is a disposition to pass off bad lives on assu. offices; some unhealthy men purchase annu.; a majority of the persons who assured their lives or purchased annu. lived in towns; and more males than females (which are generally not distinguished) were probably included in the T. upon which these calculations were founded. The result of the conflicting elements is that the expec. of life deduced from obs. on annuitants and persons assured, are, at all ages, a fraction of a year *above* or *below* those of the English nation. The irregularities appeared to be caused by the circumstances just adverted to, and the smallness of the numbers upon which the T. of the Life Offices and of Gov. Annuitants have been calculated. To what extent and under what conditions a National Life T. should be employed in granting life annu. or assu. will be a matter for further consideration. The facts which follow seem to show that different Life T. should be employed in selling annu. and adjusting the prems. of assu. to meet different degrees of contingency.

It had previously (p. 18) been remarked :

Mr. Finlaison did not in the construction of his T. distinguish the persons who entered at each year of age—a point which is to be regretted, because the granting of annu. (calculated on the lives of persons sick and healthy) to selected persons in health—particularly at advanced ages—is well known to be, and has since proved, a matter of serious importance in a pecuniary point of view.

In 1845 Mr. Neison pub. his *Contributions to Vital Statistics*, and in Table H of that work, sec. number 6, he gives a col. of "Expectation" for "Gov. Males," with the following explanation and obs. thereon (p. 38) :

Table H, No. 6, has been recalculated for the present paper from the facts given by Mr. Finlaison at p. 67 of his Rep. on Life Annu. in March, 1829—being the combined results of 6 different classes of obs. on male lives. That usually quoted as the *Expec. T. of the Gov. Annuitants* is the one calculated by Mr. Finlaison in 1825 [? 1823], and differs in some important particulars from his subsequent and revised data in 1829. This T. then will show that the male lives selected for the Gov. Annu. are not only of less duration than the male pop. of the country generally, and are also of less value than

lives in Assu. Cos., but are actually shorter-lived than the members of Friendly Soss. in the city districts. It is evident from these results, that the presumed power of the individual to judge of his own state of health has not shown the remarkable effects anticipated: there is more reason to believe that the natural inclination with which every person is led to look upon his life as good will very much influence any power of discrimination on his own chances of longevity. It is however to be kept in view that persons of decidedly bad health will rarely purchase annu.; and the exclusion of these has, no doubt, some effect in slightly raising the standard of the T. A similar obs. is also to be made with respect to the applicants to Assu. Cos. . . .

The following is a quinquennial abstract of the T. given by Mr. Neison :

Expec. of Gov. Males as calculated by Mr. Neison (1845) from the data supplied by Mr. Finlaison in 1829 :

Age.	Expectation.	Age.	Expectation.	Age.	Expectation.	Age.	Expectation.
10	44'2721	35	29'3167	60	13'4830	85	3'7427
15	40'5612	40	26'1511	65	10'8672	90	2'8233
20	37'4079	45	22'9172	70	8'6547	95	1'7917
25	35'0806	50	19'4414	75	6'8215	98	'5000
30	32'4192	55	16'3893	80	5'0857		

At a Gen. Meeting of the Representatives of English and Foreign Ins. Interests held in London in 1851 (occasion of Gt. Exhibition), Mr. Neison, taking a survey of the principal existing data to which the doctrine of Prob. might be applied, said (*inter alia*)—vide *Assu. Mag.* vol. i. p. 371 :

The public is indebted to our president Mr. Finlaison for what is called the Gov. T.; but these, irrespective of inherent evidence of anomalous conditions, could scarcely be thought applicable to the purposes of a Life Office: for as the bulk of the data has reference to a remote period of years, *if any value is to be attached to prevailing opinions on the recent improvement of life, the data must be wholly inapplicable to the present time.* It may also be here remarked that the T. usually quoted as the Gov. T. are not those based on the corrected and revised data of 1829, but those given in the *Rep. of 1824* [Friendly So. Rep. 1825]; and what the public really speak of as being the Gov. T. is not in fact that finally adopted.

In 1856 Mr. Fredk. Hendriks read before the Statistical So. his remarkable paper: *On the Financial Statistics of Brit. Gov. Life Annu.*, referred to in other parts of this art., and therein he says (p. 335) :

The calculation of new T. of Mort. to be estimated upon the recorded results of Annu. and Tontine trans. entered upon by the Brit. Gov. were ordered to be made by the department of the Commissioners for the Reduction of the National Debt. . . . The great feature of the new T., called the Gov. Obs., was, that it made a wider degree of difference between male and female expec. of life than had been observed in other previous investigations into the relative vitality of the two sexes. So far as regards male life, the results for all practical purposes were closely identical with those of Deparcieux's T. at nearly every age; but there is room left for doubt whether too short an assumed duration of life for males, particularly at advanced ages, and in a select class, and consequently too high a rate of annu. at such ages, is not still allowed to regulate the terms on which Gov. grants life annu.

Mr. W. T. Thomson, in the art. "Life Assu." in the 8th ed. of the *Ency. Brit.* (1856), speaking of Mr. Finlaison's T., said :

Some have objected to the results of these obs., amongst other grounds, from the circumstance that they extend over a remote period of time, rendering the data inapplicable to present and future circumstances, if any value is to be attached to the prevailing opinions as to the improvement of life; but after many years' experience of the use of the T., and after applying such checks as were available, we have come to the conclusion that these tables represent, very correctly, the value of the lives of annuitants, and are very suitable for calculations in connexion with such transactions. On the other hand, they are quite unsuitable for adoption as the basis of life assu. prems.; and we do not think any office could with safety adopt the Gov. T. as their guide in that respect.

He added : "We believe the National Debt Office are in possession of joint life calculations, on the basis of Mr. Finlaison's computations; but they have thought it proper to retain them for their own use."

Messrs. Bailey and Day, in their able paper, *On the Rate of Mort. in Peerage Families*, 1861 [*Assu. Mag.* vol. ix. p. 305], after a careful examination of the results of various Mort. T. in regard to female life, say :

The peculiarity of Mr. Finlaison's results may perhaps be accounted for by the prob. that a large proportion of the females in his Obs. are unmarried, and by the scantiness of his materials in middle life compared with their abundance at the older ages.

Mr. A. G. Finlaison, in his *Rep.* 1860 (p. 69), considers that the amount saved to the country between 1829 and that date, by the substitution of Mr. John Finlaison's rates for those of the *Northampton T.*, might be estimated at £3,000,000.

1834.—Further Selection against the Gov.—We now resume the chronological sequence of events. Under the new set of Monetary T. for the sale of Gov. Life Annu., which were brought into use in 1830, by the authority of 10 Geo. IV. c. 24, Annu. were allowed to be purchased at all ages from 15 to 90 inclusive. The extension of the T. to this advanced age was the result of an oversight—or perhaps, more correctly, was due to the want of professional training on the part of the Gov. Actuary. The influence of "Selection" at such a period of life had not been sufficiently considered; and hence, while the new T. stopped one branch of adverse speculation as against the National Exchequer, they speedily gave rise to another. The manner in which this new process of

dealing was accomplished has already been referred to under ANNU. ON LIVES, 1829; but it becomes necessary to add some details, in order to a clear understanding of the situation.

It was quickly perceived that if persons at very advanced ages were selected, who were in more than usually sound states of health, with sound constitutions, enormous gains might be made. For instance, if the price of funds were at $91\frac{1}{2}$ to 93, the price of an annu. of £20 so long as a male of 90 should live was £31 19s. 10d.—so that by 3 half-yearly payments the purchase-money would nearly all be got back. But if the man should live until 4, 5, 6, or 7 half-yearly payments were made, the gain to the proprietor of the annu. would be prodigious, and the loss to the country of course in the like proportion. It was well known that several gentlemen of fortune, as also some Banks, and not least some Life Ins. Asso.—further, even the Commissioners of Greenwich Hospital—turned their special knowledge to account, and bought largely of the Life Annu. the Gov. had undertaken to sell. Not only were agents sent into healthy districts of the country to select nominees from healthy families and salubrious localities, but it was asserted, upon what seemed to be good authority, that these nominees were provided with comforts suited to their years, as also with medical attendance available to the same end. It was said and believed that sums to the extent of $1\frac{1}{2}$ million sterling were embarked in this enterprise, and a profit of £300,000 speedily realized.

Mr. A. G. Finlaison, in his Rep. pub. 1860—which we anticipate on this question, for the purpose of continuity—reviews the results of any adverse speculation against the Gov. with a good deal of frankness. He first considers the prob. of any dealings under the Sinking Fund Annu. commenced to be issued in 1808, and hereon says (p. 60):

The Obs. were made up to the close of the year 1822, and as the grant of annu. at the National Debt Office only commenced in the autumn of 1808, the experience obtained in respect of the self-selected annuitants of the Sinking Fund was manifestly of short duration. The data relating to aged selected annuitant life were therefore of necessity of a very restricted amount. As far as selection had influence in the Tontines, its effect dated a generation back; and in respect of aged male life, was allowed in some measure by the intro. of lives taken from the lists of the *Amicable Assu. Office*; almost all the Gov. nominees of the Tontine 1789 above 50 were supplied from this source. The combined experience obtained by Mr. Finlaison of mort. at very advanced ages, therefore, could not be very extensive. But such as it was, there was none other of equal validity at the time it was collected. In 1822 the maximum number entering upon any one year of life did not exceed 3709 for the males, and 4766 for the females. This maximum was attained in both cases at the age 32. In the new Obs. of 1860, the males subject to mort. in any one year were at a maximum with 4902 lives, and the females with 8036, at the ages 61 and 63 respectively.

In 1822, Mr. Finlaison's numbers at the age of 75 were but 509 males and 628 females, with 32 deaths at the same age for each sex respectively. The new Obs. give at the age of 75, for the corresponding numbers—males 2617, with 249 deaths; females, 4990, with 397 deaths. The lapse of time it is manifest had not been sufficient in 1822 to allow the greater number of the nominees to grow old. But notwithstanding the restricted extent of this portion of the Obs., it will be found that Mr. Finlaison made very good use of the materials which lay at his disposal.

The argument inferred rather than expressed here is, that Mr. Finlaison had not in 1822 the means of judging if any selection had been made against the Gov.; and it might be added, that if any such had been made, it was brought into account in the Obs. then completed, and hence to such an extent, whatever it might be, had lessened the chances of adverse operations in the future.

But the real interest in the point arises in the subsequent events—or about 1834—when it is known, as a matter of fact, to the Gov. that an adverse selection had been brought to bear, and hereon Mr. A. G. Finlaison gives us the views of his father, which are all-important, considering his familiarity with all the preceding events. In continuation of the foregoing, he says:

In dealing with the matter of the successful selection of aged lives, some 12 years after the date of the Obs. of 1822, the late Mr. Finlaison entertained the following views: from his studies on the subject, Mr. Finlaison had come to the conclusion that out of 100 male pop. at the age of 80, one-tenth only attain the age of 80½ years. The great question was, therefore, whether the speculators, by any knowledge they could arrive at, might be able to detect the tenth man at the age of 80, who should live 9½ years, and reject the other nine men whose lives would fail before then. On this point Mr. Finlaison gave an opinion that they might do so, with a strong prob. of success; but felt himself bound to state that this opinion was founded on little else than *à priori* reasoning. Facts and experiences afforded no guide, in 1834, as to the effect of selected life in the sense then applicable to the subject. With regard to selected individuals, it had not happened until then (1832-4) that money was hazarded on this description of risk. Those who purchased annu. at the National Debt Office theretofore acted each one for himself, and all the researches which Mr. Finlaison had then made showed either that there was no selection in the case, or if there was, that it had no effect. Those of the Tontines which grew up to old age were, if at all, selected when young, and the same is true of assured lives; with this further disadvantage, that they are men undergoing the wear and tear of life in active professions, and include many unsound subjects imposed on the offices, notwithstanding their vigilance, and except one or other of the three classes alluded to, Mr. Finlaison had no means of obs.

As far as a very imperfect obs. could go on the experience of the old men proposed by the speculators up to 1834, there seemed reason to think that the selected *really did live longer than was reckoned on*. But this might be purely an accident—for the month of February, usually so fatal to the aged, had in that and the two former winters been surprisingly mild, in proof of which a remarkable fact in natural history was cited. [Note.—The nightingale appeared on the 22d February, 1834, contrary, it is said, to all former experience.] Mr. Finlaison, therefore, thought it would be no wonder if many of the old lives survived the then season, without attributing any merit to the knowledge of the speculators. It was impossible to say whether they knew how to proceed in choosing lives that should have a high prob. of living beyond the average duration of men in general. One reason for surmising that they did not know how to proceed was that they risked their capital again and again on the same life.

This argument appears to us capable of being used with more effect on the other side—as some facts in the sequel will appear to show. But we must proceed with the interesting narration :

Mr. Finlaison, however, considered that it is certain *there are means of choosing lives that shall have a great prospect of longevity*. By the simple experiment of examining the tombstones in a churchyard, it is easy to see whether the locality is eminently healthy, or the reverse. For instance, by noting down some few scores of the ages at which the dead were recorded to have died in two parishes, the one north of the Thames, and the other on the southern bank of the river, Mr. Finlaison found that the average duration of life in the one parish exceeded that of the other by 10 or 15 years.

In the next place, by examining the gravestones in a very healthy parish, it will be seen, in all situations, that longevity or the contrary runs very much in particular families. In some inscriptions it will be perceived that nearly all the persons buried had attained to very great ages, while in others a very different fate is recorded. The same thing is to be remarked in the Tontines. It very often happened that an adventurer in these speculations took many shares, and very naturally nominated his own children, nephews and nieces, as the lives on which he depended. It will be seen, on inspecting the lists, that the family so named died in clusters, either very early, or altogether in advanced age; and in fact it is proverbial that there are long-lived families. Thus far the healthiest districts may be found, and the healthiest families in those districts. It remains only to discover the healthiest individuals of such families. *It was Mr. Finlaison's opinion that an acute medical man could do this by personal examination.* (p. 63.)

The entire statement is summed up thus : While maintaining the truth and safety of his T., as far as regards the *average* life of mankind in *bond fide* transactions, Mr. Finlaison never hesitated to declare *that they were not adapted to a totally different purpose—namely, a speculation which was neither more nor less in many cases than gaming of a most hazardous kind*. The obs. on human life which forms the basis of the present T. was made in 1822. The facts in advanced age were but very few, but most carefully sifted from all chance of error. They were of necessity few, because, in the course of nature, out of a limited number of human beings, those who pass the age of 80 cannot be many. Nevertheless, in Mr. Finlaison's judgment, every subsequent obs. on increased numbers served only to confirm the orig. T.

Fortunately, we have at hand the means of testing by actual fact the results of the operations of the speculators, as also of seeing the ages at which their selected nominees have turned out the most advantageous. In 1851 Mr. W. T. Thomson, the then able Man. of the *Standard Life* [who was understood to have been, jointly with Mr. Chas. Ansell, Act. to the speculators], contributed to the ed. of the *Assu. Mag.* [vol. i. p. 29*] the details of the results of 4 different groups of *males*, who were selected for the purposes of investment, during the years 1833 and 1834, viz.

1. 3 July, 1833 20 lives. 3. 3 Jan. 1834 20 lives.
2. 9 Oct. „ 20 „ 4. 31 Mar. „ 35 „

—total 95 lives. But some of the lives were selected twice, and hence the number brought into the following T. will be 83 only. Out of the number chosen previous to 1st Jan. 1834, one death occurred; but it was considered sufficiently near for practical purposes to exclude the lives and the mort. for that year (1833), and to assume that all the lives were brought under obs. from 1st Jan. 1834, at the ages given at the head of the following T. :

T. showing, out of 83 lives selected in 1833–34 at the Ages 75–81, the Deaths in different years, and the Number of Survivors.

Selected at Age 75			76		77			78		79			80		81		Total	
Years.	Living.	Died.	L.	D.	L.	D.	L.	D.	L.	D.	L.	D.	L.	D.	L.	D.	Living.	Dying.
1834	3	..	5	I	9	I	16	2	23	6	24	4	3	..	83		14	
1835	3	..	4	..	8	..	14	I	17	I	20	I	3	..	69		3	
1836	3	I	4	..	8	2	13	I	16	2	19	2	3	..	66		1	
1837	2	..	4	..	6	..	12	I	14	..	17	I	3	..	58		2	
1838	■	..	4	..	6	I	11	I	14	2	16	3	3	..	56		7	
1839	2	..	4	..	5	3	10	I	12	I	13	I	3	..	49		6	
1840	2	I	4	..	2	..	9	I	11	..	12	I	3	I	43		4	
1841	■	I	4	I	■	..	8	I	11	3	11	I	2	..	39		7	
1842	..	..	3	..	2	I	7	..	8	I	10	3	2	2	32		7	
1843	..	..	3	..	I	..	7	I	7	2	7	2	..	..	25		5	
1844	..	..	3	..	I	..	6	3	5	I	5	I	..	..	20		5	
1845	..	..	3	..	I	..	3	..	4	2	4	2	..	..	15		4	
1846	..	..	3	I	I	I	3	2	2	..	2	I	..	..	11		5	
1847	..	..	2	I	..	..	I	..	2	I	I	..	..	..	6		3	
1848	..	..	I	..	..	..	I	..	I	..	..	..	..	..	3		I	
Surviving to 1849	..	..	I	..	..	..	..	..	I	..	..	..	..	..	2		..	
18	3		54	4	52	9	121	16	147	22	161	24	25	3	575		81	

In the data here recorded all of the same age at the beginning of each year have been brought together, and the prob. of surviving a year at each age ascertained. Thus the 3 who were surviving at 81 are classed with the 20 surviving at that age out of the 24 who had been selected at age 80, and with the 16 surviving to age 81 out of the 23 who entered at age 79, etc. The obs. would otherwise not have been sufficient to form a T. of Mort.

The following T. shows the number surviving at each succeeding age out of 1000 existing at age 75, and the expec. thence deduced, compared with the expec. according to Mr. Finlaison's T. (Males), and that from *Experience* T. No. 1.

Age.	Log. of the prob. of Living a Year.	Surviving at each age.	Expectation.	Expec. Gov. Males.	Expec. Experience T. No. 1.
76	1.94201	1000	6.88	6.69	6.11
77	1.94201	875	6.79	6.23	5.76
78	1.97004	766	6.68	5.78	5.42
79	1.91568	715	6.12	5.35	5.09
80	1.95861	588	6.34	4.94	4.78
81	1.95653	535	5.92	4.55	4.48
82	1.94310	484	5.49	4.18	4.18
83	1.95424	425	5.18	3.82	3.90
84	1.94885	382	4.70	3.46	3.63
85	1.96614	340	4.22	3.12	3.36
86	1.95031	314	3.53	2.81	3.10
87	1.94389	280	2.90	2.53	2.84
88	1.83863	246	2.23	2.31	2.59
89	1.81291	170	2.01	2.12	2.35
90	1.78915	110	1.83	1.95	2.11
91	1.85387	68	1.65	1.83	1.89
92	1.60206	49	1.09	1.65	1.67
93	1.69897	19	1.03	1.49	1.47
94	.....	10	.50	1.34	1.28

It requires to be explained that the facts not being very numerous, it was thought unnecessary to give a greater show of regularity to the prob. of living, by adopting any mode of arbitrary correction (adjustment). The col. was added to facilitate the forming a more perfect T. hereafter. The numbers originally selected at the first three or four ages were very small. It will be noticed that at every age up to 87 the average duration of life exceeds considerably that derived from the two other T. brought into comparison, and proves that a profitable result must have accrued to the investors.

In the case of 57 out of the 81 deaths, the months wherein the deaths occurred were recorded, and are shown as follows :

January	2	April	4	July	4	October	10
February	6	May	4	August	3	November	6
March	5	June	5	September	5	December	3
Proportion p.c.	22.81		22.81		21.05		33.33

—October thus proving the most fatal, and not February, as has been sometimes believed.

Happily we have a still later test at hand, concerning, we suspect, some of the same lives. Mr. David R. W. Huie pub. in 1868 (in Edin.) his able little book : *The Valuation of Widows Funds* ; and in a foot-note on p. 8, by way of illustrating one of the faults of the *Carlisle* T.—namely, “its excessive attenuation” at the higher ages—he says :

It does not seem at all prob. that the latter portion of the *Carlisle* T. will be borne out by any experience. *The nearest approach to it that has come under my own obs. was in the case of an investment in Gov. Life Annu. made by some of the Scotch Ins. Cos. and Banks, about the year 1832.* At that time the National Debt Commissioners made no restrictions as to the age of the selected lives on which they granted annu. The nominees I refer to were all chosen between the ages 77 and 80.

He then shows in the following T. the number surviving each year from 80 to the end of life ; placing in parallel columns the numbers which the *Carlisle* T. would afford at the corresponding ages :

Age.	Annuity Nominees.	Carlisle T.	Age.	Annuity Nominees.	Carlisle T.	Age.	Annuity Nominees.	Carlisle T.
80	70	70.	88	24	17.04	96	2	1.69
81	61	61.48	89	16	13.29	97	2	1.32
82	58	53.25	90	12	10.43	98	1	1.03
83	52	45.76	91	8	7.71	99	1	.81
84	46	38.86	92	7	5.51	100	1	.66
85	39	32.69	93	4	3.97	101	1	.51
86	32	26.96	94	2	2.94	102	1	.36
87	28	21.74	95	2	2.20	103	0	.21

On which he makes the following important reflection :

The figures given here are very remarkable, and it is almost unnecessary for me to add *that the transaction proved a very profitable one to the parties who engaged in it.* Since the period mentioned, the operation of the Income Tax, and the refusal of the National Debt Commissioners to receive selected lives above a certain age, have combined to reduce the profits of such investments. *But with judicious choice of nominees, it would appear that $\frac{1}{2}$ p.c. may still be safely calculated on.*

From this, and other circumstances within our knowledge, it may be stated that Gov. Life Annuities still receive the careful attention of financiers. But from soon after this date (1834) the age up to which such annu. were granted was limited to 80.

The consideration of these adversely selected lives will fall to be spoken of again in reviewing Mr. A. G. Finlaison's Rep. in 1860. (See 1852.)

1837.—Mr. Alex. McKean, in his *Practical Life T.* pub. this year, gives some T. of pol. values based upon the Gov. T. of Mr. Finlaison. The author says: "The data afforded by the Gov. Obs., from which the author has calculated the Law of Mort. and the values of annu. for male and female life, are as yet very little known, and their pub. will perhaps be considered as forming an add. of some importance to the T. deduced from the *Northampton* and *Carlisle* obs., which are now and have long been so extensively used" (p. 2).

The *Scottish Provident Life*, founded in Edin. this year, adopted these T. at 4 p.c. int. with an add. of 10 p.c. for males, 15 p.c. for females, as the basis of its rates and other operations.

1849.—The evidence of Mr. Finlaison before the Commission on Episcopal and Capitular Estates, this year, will throw some further light upon points evolved in the course of his investigations into the mort. of Gov. Annuityants.

1852.—During this and the following year another considerable batch of selected lives became nominees for interested parties. We believe a large proportion of these were selected from members of the So. of Friends, whose longevity has become proverbial. Concerning several of these, as also of some earlier nominees, discrepancies were discovered respecting date of birth, etc., of such a character as to render the contracts void. We believe about 11 p.c. (or in all 13 lives) of this batch were afterwards found to be voidable on account of errors. These had not been intentional—want of a proper system of regis. of births in the last and early in the present century caused the speculating Ins. Asso. to be deceived.—See 1874.

1853.—New T. of Annu. were issued in February this year, omitting (1) all rates applicable to the price of funds beyond their par value; (2) limiting the annuity to be paid to all persons of the age of 80 and upwards to that paid at age 80. But the Commissioners had several years previously, we believe, framed a regulation—under the discretionary powers given them in the Act of 1829 to refuse to grant an annu. on "sufficient grounds"—that they would not grant any annu. on a life aged above 64, *unless the nominee shall have bond fide or beneficial interest in such annu.* This was, of course, aimed at the system of selecting nominees, which we have already noticed under date 1834 and 1852. But it is understood that later nominees have usually received a fraction of the annu. granted to keep alive their beneficial interest, and to preserve them in a better condition to sustain a prolonged vitality.

1856.—Mr. Frederick Hendriks read before the Statistical So. a paper: *On the Financial Statistics of British Gov. Life Annu. (1808–55), and on the Loss sustained by Gov. in granting the Annu.* [Journ. Statis. So. vol. xix. p. 325]. This is a most able and exhaustive paper; and it reviews and criticizes in much detail many of the facts dealt with in the present art. "The final result is a net adverse bal. of £9,270,000 loss accrued to the Gov. on account of Life Annu. granted in 46 years and 7 months, ended 31 Mar. 1855." (p. 359.) It would be difficult to put the case in fewer words, or more forcibly in any words. The whole system had been a blunder from the beginning until now—and this certainly not from any want of able men to advise. Probably Mr. Hendriks compasses the whole cause of error, and also indicates its cure, in the following passage (p. 332):

In all cases affecting the political economy of the nation, it is earnestly to be desired that whilst we avoid, on the one hand, a system of minute and, so to speak, microscopical statistics upon subjects of no general importance, we do not, on the other hand, lose sight of the necessity of having all the facts essential for the investigation of great questions systematically and fully before the public whom it concerns. *This full measure of information has never yet been so submitted, either as regards Life Annu. statistics, or upon the in many respects analogous subject of Terminable Annu. for years certain.* The importance of the questions which arise out of these branches of financial administration is obvious from the constant evidence of discussions in and out of Parl. upon the relative equity of letting remoter posterity bear its share of the burthens of debt, or of throwing the greater, if not the whole, share on the present generation.

The principle here advocated is steadily coming into adoption. Mr. Hendriks takes the view, already in part expressed under date 1829, that—

It is an error to assume that the whole matter for investigation is the actual, as compared with the expected, degree of vitality of the annuityants; and it begs the question that nothing attaches to the after effect of the rate of int., and the incidence upon the taxed public of the altered fiscal and financial regulations accruing from each grant of a life annu., having nothing to do with the ultimate result!

He adds, "We must either concede this, or else examine how far the question is resolved, affirmatively or negatively, by the financial statistics of the life annu. plan, so far as they can be sifted from the public accounts." (p. 337.) This inquiry he pursues

with some detail ; but into it we cannot here follow him. [LIFE ANNU. AS A BRANCH OF NATIONAL FINANCE.]

Regarding the exact proportions of loss between the two periods from 1808 to 1855—of which 1829 constitutes the dividing line—while the amount has been estimated by Mr. Hendriks at £3,124,000 up to 1829, leaving therefore £6,146,000 of the aggregate loss as having occurred since that date, we find the following passage (p. 359), which seems to indicate that these figures must not be deemed entirely conclusive :—

Until more exact statistics are pub. by the Gov. with the view of affording information as to the financial and mort. results of the whole period from Sept. 1808—distinguishing the results under the old series of annu. from those under the new series—it will not be possible accurately to define the respective apportionment of loss to each series ; but that a loss has accrued, and will accrue on *both* series, it is anticipated would be certainly proved on such Gov. statistics forthcoming ; and that the inherent defects in the principle of the scheme of Life Annu. as adopted under its assumed character of a profitable Sinking Fund, would also be shown, scarcely admits of a doubt.

The same remarks apply to the principles of the joint scheme in connexion with the Life Annu. scheme, and governed under the same Acts of Parl., by which perpetual annu., with precisely the same object of a sinking fund, are converted into annu. for terms of years certain.

1859.—Mr. Jardine Henry pub. (in 2 vols. 8vo.) : *The Gov. Annu. T., embracing the Values of Annu. on Single and Two Joint Lives at 3, 4, 5, and 6 p.c. p.a., for every Combination of Age and Sex ; founded upon the actual Experience of the Brit. Gov. Tontines and Life Annu., according to the Orig. Obs. of all the Nominees from July, 1693, to Oct. 1825, as contained in the Rep. of John Finlaison, Esq., Act. of the National Debt, to the Lords Commissioners of the Treasury, ordered by the H. of Commons to be printed, 31 Mar. 1829.* In his preface he says (p. vi) :

Taking now the Gov. Annu. T., or rather the Obs. of human life from which they have been derived, we find only two causes calculated to create irregularities in them, viz. *Climate and Habits*. With reference to the first, it is believed there can be no great differences, the Annuity and Tontine Nominees living mostly in this country. Of habits more may be said, perhaps ; but even here it is found that the variation could not be great so far as arising from class : because almost all the parties whose lives were subjected to obs., belonged to the wealthier classes—although, of course, great differences might arise in respect of one individual and another, from their several modes of life being less or more conducive to longevity.

Upon the general qualities of the elements of these T. it might, he said, be observed :

1. That the accuracy of the ages, whether recorded at entry to the particular scheme, or at death, is unquestionable—the interests involved requiring and enforcing, under the eye of Gov. officials, the most perfect correctness in these details. 2. The T. are free from disturbing elements operating against their adaptation to the purposes for which they are intended. There is no difference of climate or condition ; and as regards employment, from the station of life of the parties, there can be no important variances in that respect. 3. There is no emigration or immigration, excepting what is rigidly ascertained, not only in individuals, but also in sexes and ages. 4. The number of lives involved is sufficient for practical purposes, and exceeds those embraced by the *Northampton* or *Carlisle* T.

It may be thought that the Regis.-Gen. [English] T. would furnish more reliable results, owing to the greater number involved. But it is well known that the Reg.-Gen. T. exhibit the most marked variations, when we take different classes of those subjected to obs.

Again, we do not necessarily attain greater accuracy by embracing large numbers, unless there be a corresponding accuracy in the details ; and all the care of Enumerators and District Registrars may be baffled in numerous cases by persons not knowing, or not choosing to give, their true ages, or giving them erroneously—there being little or no check upon this. . . .

Of the T. selected by Mr. Finlaison for the use of the Gov. much does not require to be said. They exhibit the highest results in length of life, and were adopted on that very ground. But the actuary who aims at correctness must be guided by the *whole* experience of the schemes, and not by a *part*.

This last remark is intended to justify the selection of the data from Obs. Nos. 8 and 15 of Mr. Finlaison's Rep. of 1829, in preference to Obs. Nos. 13 and 20, upon which Mr. Finlaison had calculated his T. We are disposed to think his view is correct, and accept it in explanation of a remark we have made thereon under ACTUARIAL T. But the reflection is still forced upon us that if Mr. Henry desired his T. to be based upon the largest possible number of obs., it is unfortunate he did not await the completion of Mr. A. G. Finlaison's Rep. in 1860.

1860.—There was printed by order of Parl. (25 Aug.), *Rep. on the Mort. of the Gov. Life Annuitants, by Mr. Alexander Glen Finlaison, Act. of the National Debt*. After some preliminary obs. on the law of mort. [MORT., LAW OF], the author approaches the immediate purposes of his Rep. (p. 9) :

There is one other question falling more particularly within the scope of these pages, which will suggest itself. It is to the effect, whether the T. which are now made use of in the grant of life annu. by the Commissioners for the Reduction of the National Debt are on the whole safe and equitable. Does 30 years further experience of the mort. prevailing among the Gov. Life Annuitants suggest the necessity of any alteration of the prices now demanded for Gov. Life Annu. ? It is to be remembered that the T. of Mort. constructed in the year 1823, and adopted in 1829, for the superseding of the *Northampton* L. Annu. T., had not the benefit of any lengthened experience of the mort. proper to the National Debt Office, as far as regards what were then termed the "Sinking Fund Life Annu." : seeing that this particular system of transforming perpetual into terminable annu. had only commenced in 1808. The T. framed in 1823 was of necessity based chiefly on the experience of the Irish and English Tontines, with which only a few years mort. of the nominees of the Sinking Fund could be combined.

Sufficient time has, however, elapsed from the period when the growing experience of that mort. was first put to use in 1823, to make it now desirable to ascertain what confirmation the present official T. will derive, or what amendment they may require from a fresh computation of the decrement of life prevailing among the same class of life annu. nominees.

An answer to this inquiry will be given in the course of the present paper, both by the T. themselves, and by verbal conclusions drawn from the results of the obs. In the mean time it will be useful to describe the *materials which once more have been turned over from their very foundations for new examination*, and to state as well, in full detail, the methods which have been pursued to turn them to account.

From what follows we learn that the Gov. Life Annu. Nominees, which form the subject of the present paper, consist of 28,367 persons. Of these, at the close of the recent investigation, 19,434 were dead. Each sex being numbered, there were 11,829 males and 16,538 females. Included among the males, there were 675 carefully selected lives.

The Gov. Life Annuitants—allowing for the purpose now in hand the general term “Annuitants” to signify nominees—divide themselves into two grand classes. The first of these divisions is composed of the persons nominated in the various Tontines established from the year 1773 to 1789. The second portion is formed of the nominees of those annuities which were granted at the National Debt Office from the year 1808 to the close of the year 1850. In the first-mentioned case, the lives enrolled were chosen for the most part not by their own volition, but the decision of other people. In the second instance, the lives were, with unimportant exceptions, altogether chosen by themselves. But in both cases the nominees may be fairly taken to represent those classes of society who are in the enjoyment of property, and who therefore are clothed with one of the most important qualities which authorize selection.

The Tontine obs. resolve themselves into two sets of nominees, selected under distinct circumstances. The first set consists of 3384 lives belonging to those Tontines commonly called the Irish Tontines, which were set on foot in the years 1773, 1775, and 1777. The second set is composed of 8171 lives included in that financial scheme which is usually known as the English Tontine of 1789. But this second set of lives subdivides itself again into two sections, each assembled under very different conditions. The first of these sections was composed of 3495 lives, usually known as the *Contributors' Nominees*, who were selected individually by those parties who took shares in the undertaking, in its outset, as a commercial speculation. The second set consisted of 4676 lives, purely *non-selected* except as to class, and are commonly distinguished as the Gov. Nominees.

The Government Nominees were merely put forward to fill up the numbers originally proposed—some of the original subscribers having exchanged their shares for long annuities under 30 Geo. III. c. 45—and 5733 shares out of 10,000 were so filled up. These nominees were selected from the Peers of Great Britain and Ireland, their children or grandchildren, also from Baronets, Justices of the Peace, and Lords of Manors in England and Wales, or their children at the more advanced ages. In addition to these there likewise were eligible, dignitaries of the Church, Beneficed Clergymen and Fellows of Colleges, Governors of the Charter House, of the Foundling, or of Christ's Hospital, and finally persons duly registered in the books of the *Amicable So. for Ins. on Lives in Serjeant's Inn*. It was also enacted that the Treasury should appoint no nominee for the public other than a resident native of Gt. Britain. The 5733 shares were assigned to 4812 lives from the classes just named, drawn by lot. Proof of birth was required.

On looking at the social position of the persons composing the lists of the Tontine of 1789, the circumstances under which they were assembled, the complete exclusion of foreign or alien lives, the careful supervision of the facts which served to establish the record, and the character of the selection which took place in the choice of the nominees, it would seem to be very difficult (said Mr. Finlaison) to find an obs. of mort. which could be expected to return more closely the duration of life which actually prevails among that important class of the community upon whose lives the tenure of leases and estates, and the succession to property, almost exclusively depend.

The obs. were brought down to the 5th April, 1854—being on a medium 80 years experience of the Irish Tontines, and 64 of the English Tontine; and Mr. Finlaison says hereon: It is to be remarked “that the mere numerical strength of these obs. is vastly enhanced in weight by the extent of time over which they now range.”

The second great division into which the Gov. Life Annuitants arrange themselves consists of the nominees of those annu. which were exclusively granted at the National Debt Office. They were originally denominated “Sinking Fund Life Annuitants,” probably from the preamble of 48 Geo. III. c. 142 (1808), and the term may be retained to distinguish them from the Savings Bank Annuitants, under 3 & 4 Wm. IV. c. 14 (1833). The L. Annu. of the Sinking Fund might, as a class, be termed self-selected. Out of 16,812, there were 675 males nominees of parties—chiefly Ins. Offices—who speculated in life annu. These will be spoken of more in detail later. There were also, no doubt, a certain number of annu. purchased under the provisions of trusts and settlements. But the great bulk of the annu. are the investments of a provident and comparatively affluent class of persons who nominate their own lives for the tenure of the annu., and therefore have, for as much as it may be worth, the benefit of the most intimate consciousness of its probable duration.

These 16,137 may therefore be held to have been uninfluenced by any selection other than their own; hence they differed from nominees, who, as the title implies, were selected by others. 5542 of them were males, and 10,595 females. At the close of these obs. 9898 were dead, and 6914 were living.

The 675 male nominees of a special class will be referred to in detail later; but their effect upon the rate of mort. is included in the T. which follow.

In order to estab. the degree of validity to which the obs. of the life annu. on the Sinking Fund might lay claim, Mr. Finlaison explains the evidence upon which annu. of this class are granted:

The purchaser of a life annu. signs a declaration to the Commissioners . . . that he is desirous of trans. to them a specified sum of stock or money for the purchase of a life annu.; and at the same time he nominates a person of an age, certified by papers then produced, to be the party upon the continuance of whose life the annu. is to depend.

Where natives of Gt. Britain are concerned, these papers usually consist of an extract from the Parish Regis. of Baptisms, carefully distinguishing whether the regis. is kept according to the old or the new style. The extract is certified to be true under the hand of the minister of the parish, or the two churchwardens or overseers, in the presence of two witnesses, whose signatures are also given with a statement of their place of residence and quality. A declaration is then made by one of these witnesses that he has examined and compared the copy with the regis., and that he saw the minister sign the certificate, and that his own and the other witnesses' names are in their own proper handwriting. A further declaration is then made by the purchaser, or by some one on his behalf, having personal knowledge of the party named in the extract from the regis., that the nominee mentioned in that copy is the person upon whose life the annu. is proposed to be purchased.

The facts here stated become of some importance in connexion with the events of 1874.

The amended observations of 1860 extended, in the whole, to 28,367 life annuitants, of whom 11,829 were males, and 16,538 females. The following are the details:

IRISH TONTINES—3348 nominees, of which 1415 were males and 1969 females—of the males 1355 had died; of the females 1849—total 3204.

ENGLISH TONTINE—8171 nominees, of which 4197 were males and 3974 females—of the males 3442 had died; of the females 2890—total 6332.

SINKING FUND ANNUITANTS—16,812 annuitants, of whom 6217 were males and 10,595 females—of the males 3635 had died; of the females 6243—total 9898.

The obs. in point of time ranged from 1 Sept. 1808, to 31 Dec. 1850—and were afterwards revised to 5 April, 1854. The rule adopted as to deceased annuitants was to consider them dead in the middle of half year after last receipt of annuity.

The process of *graduation* adopted in adjusting the mort. results of the present inquiry was the same as that which had been adopted in 1829—and this after weighing the merits of the various processes which since that period came into use (p. 38).

The following abstract T. of Male and Female Life respectively embody the main results of the inquiry of 1860 (pp. 140-5). They are based upon the combined obs. of male and female life respectively; and hence the T. for males reflects the influence of the specially selected lives already referred to, and hereafter to be spoken of in more detail:

MALES of the Combined Observations—Finlaison, 1860.

Age.	The Numbers Living.	Mort. p.c. Adjusted by the "True Law."	The Expectation of Life.	Present Value of a Life Annu. of £1. Int. at 4 p.c.	Present Value of a Life Annu. of £1. Int. at 3½ p.c.	Age.
0						0
1						1
2						2
3	1,000,000	·97842	49·9408	19·2882	22·1347	3
4	990,216	·90657	49·4293	19·2579	22·0799	4
5	981,239	·83656	48·8769	19·2114	22·0061	5
6	973,030	·76938	48·2850	19·1485	21·9130	6
7	965,544	·70510	47·6555	19·0688	21·8006	7
8	958,736	·64628	46·9904	18·9724	21·6689	8
9	952,540	·59726	46·2928	18·8596	21·5187	9
10	946,851	·56457	45·5679	18·7319	21·3515	10
11	941,505	·55246	44·8238	18·5917	21·1706	11
12	936,304	·56309	44·0700	18·4428	20·9801	12
13	931,031	·59678	43·3168	18·2892	20·7846	13
14	925,475	·65225	42·5738	18·1349	20·5890	14
15	919,439	·72907	41·8500	17·9841	20·3977	15
16	912,736	·82412	41·1537	17·8409	20·2153	16
17	905,214	·93232	40·4916	17·7087	20·0457	17
18	896,774	1·04714	39·8679	17·5904	19·8920	18
19	887,384	1·16120	39·2845	17·4876	19·7558	19
20	877,079	1·25790	38·7402	17·4007	19·6375	20
21	866,046	1·32700	38·2273	17·3273	19·5340	21
22	854,554	1·36380	37·7347	17·2627	19·4401	22
23	842,900	1·36790	37·2495	17·2015	19·3495	23
24	831,370	1·34300	36·7592	17·1377	19·2554	24
25	820,204	1·30200	36·2528	17·0658	19·1518	25
26	809,525	1·25530	35·7244	16·9855	19·0351	26
27	799,363	1·21060	35·1722	16·8864	18·9036	27
28	789,686	1·17380	34·5971	16·7770	18·7572	28
29	780,417	1·14820	34·0021	16·6554	18·5968	29
30	771,456	1·13580	33·3912	16·5228	18·4242	30
31	762,694	1·13710	32·7691	16·3811	18·2416	31
32	754,021	1·15090	32·1402	16·2323	18·0510	32
33	745,343	1·17550	31·5086	16·0781	17·8547	33
34	736,582	1·20810	30·8775	15·9201	17·6543	34

Age.	The Numbers Living.	Mort. p.c. Adjusted by the "True Law."	The Expectation of Life.	Present Value of a Life Annu. of £1. Int. at 4 p.c.	Present Value of a Life Annu. of £1. Int. at $\frac{3}{4}$ p.c.	Age.
35	727,683	1'24280	30'2489	15'7594	17'4509	35
36	718,640	1'27540	29'6233	15'5960	17'2448	36
37	709,474	1'30310	28'9996	15'4294	17'0353	37
38	700,229	1'32440	28'3758	15'2585	16'8212	38
39	690,955	1'33890	27'7500	15'0818	16'6010	39
40	681,704	1'34790	27'1198	14'8979	16'3731	40
41	672,515	1'35330	26'4835	14'7055	16'1362	41
42	663,414	1'35710	25'8400	14'5036	15'8892	42
43	654,411	1'36200	25'1886	14'2912	15'6313	43
44	645,498	1'37020	24'5295	14'0681	15'3622	44
45	636,653	1'38840	23'8633	13'8341	15'0818	45
46	627,814	1'42120	23'1922	13'5900	14'7912	46
47	618,891	1'47220	22'5194	13'3374	14'4921	47
48	609,780	1'54340	21'8484	13'0781	14'1867	48
49	600,369	1'63570	21'1831	12'8145	13'8774	49
50	590,549	1'74190	20'5270	12'5487	13'5666	50
51	580,262	1'85570	19'8820	12'2820	13'2559	51
52	569,494	1'97190	19'2485	12'0148	12'9455	52
53	558,264	2'08640	18'6256	11'7467	12'6351	53
54	546,616	2'19630	18'0119	11'4769	12'3237	54
55	534,611	2'30020	17'4051	11'2040	12'0100	55
56	522,314	2'39960	16'8031	10'9265	11'6922	56
57	509,781	2'49760	16'2040	10'6430	11'3690	57
58	497,048	2'59970	15'6062	10'3522	11'0392	58
59	484,127	2'71170	15'0094	10'0537	10'7022	59
60	470,998	2'84630	14'4139	9'7412	10'3580	60
61	457,593	3'01230	13'8215	9'4341	10'0080	61
62	443,808	3'21550	13'2352	9'1162	9'6542	62
63	429,538	3'45860	12'6583	8'7958	9'2991	63
64	414,682	3'74220	12'0939	8'4754	8'9453	64
65	399,164	4'06530	11'5446	8'1571	8'5951	65
66	382,936	4'42510	11'0127	7'8429	8'2505	66
67	365,991	4'81820	10'4994	7'5342	7'9131	67
68	348,357	5'24080	10'0056	7'2322	7'5838	68
69	330,100	5'68930	9'5313	6'9375	7'2634	69
70	311,320	6'14540	9'0761	6'6503	6'9518	70
71	292,188	6'60210	8'6377	6'3691	6'6477	71
72	272,897	7'06130	8'2129	6'0921	6'3490	72
73	253,627	7'53160	7'7989	5'8172	6'0534	73
74	234,525	8'02690	7'3934	5'5426	5'7592	74
75	215,700	8'59990	6'9950	5'2674	5'4653	75
76	197,150	9'28040	6'6061	4'9936	5'1739	76
77	178,854	10'07860	6'2308	4'7246	4'8885	77
78	160,828	10'99010	5'8731	4'4642	4'6132	78
79	143,153	11'99850	5'5365	4'2161	4'3512	79
80	125,976	13'05170	5'2232	3'9826	4'1051	80
81	109,534	14'11770	4'9322	3'7636	3'8748	81
82	94,071	15'18100	4'6008	3'5576	3'6584	82
83	79,790	16'23580	4'4055	3'3621	3'4533	83
84	66,835	17'28210	4'1625	3'1743	3'2567	84
85	55,285	18'34280	3'9277	2'9910	3'0650	85
86	45,144	19'44770	3'6977	2'8093	2'8755	86
87	36,365	20'63250	3'4697	2'6271	2'6858	87
88	28,862	21'95490	3'2418	2'4425	2'4940	88
89	22,525	23'48940	3'0130	2'2547	2'2994	89
90	17,234	25'03750	2'7846	2'0648	2'1031	90
91	12,919	26'93510	2'5476	1'8647	1'8967	91
92	9,439	29'21510	2'3024	1'6541	1'6802	92
93	6,682	31'91890	2'0464	1'4303	1'4508	93
94	4,549	36'64755	1'7714	1'1850	1'2003	94
95	2,882	42'76044	1'5068	'9452	'9562	95
96	1,650	50'45997	1'2589	'7174	'7249	96
97	817	59'94855	1'0320	'5061	'5107	97
98	327	71'42857	'8283	'3141	'3166	98
99	94	85'10245	'6490	'1432	'1443	99
00	14	100'00000	'5000	.....	.....	100

GOVERNMENT LIFE ANNUITANTS, 1860.

FEMALES of the Combined Observations—Finlaison, 1860.

Age.	The Numbers Living.	Mort. p.c. Adjusted by the "True Law."	The Expectation of Life.	Present Value of a Life Annu. of £1. Int. at 4 p.c.	Present Value of a Life Annu. of £1. Int. at 3½ p.c.	Age.
0						0
1						1
2						2
3	1,000,000	1'07493	54'1942	19'8850	22'9639	3
4	989,251	'93789	53'7776	19'9051	22'9678	4
5	979,973	'82780	53'2820	19'8973	22'9388	5
6	971,861	'74129	52'7226	19'8659	22'8820	6
7	964,656	'67448	52'1126	19'8149	22'8021	7
8	958,150	'61279	51'4631	19'7474	22'7030	8
9	952,278	'56991	50'7773	19'6639	22'5854	9
10	946,851	'54910	50'0655	19'5677	22'4531	10
11	941,652	'55087	49'3392	19'4628	22'3108	11
12	936,465	'57348	48'6097	19'3534	22'1635	12
13	931,094	'61345	47'8872	19'2436	22'0158	13
14	925,383	'66601	47'1797	19'1369	21'8717	14
15	919,219	'72000	46'4927	19'0358	21'7339	15
16	912,601	'76770	45'8262	18'9408	21'7339	16
17	905,595	'80440	45'1769	18'8509	21'6030	17
18	898,310	'82793	44'5392	18'7639	21'4776	18
19	890,873	'83823	43'9068	18'6773	21'3555	19
20	883,416	'83999	43'2737	18'5886	21'1090	20
21	875,985	'83706	42'6361	18'4959	20'9797	21
22	868,653	'83247	41'9917	18'3981	20'8444	22
23	861,421	'82857	41'3401	18'2947	20'7025	23
24	854,284	'82701	40'6813	18'1854	20'5539	24
25	847,219	'82909	40'0163	18'0706	20'3989	25
26	840,195	'83542	39'3467	17'9505	20'2380	26
27	833,176	'84611	38'6740	17'8258	20'0717	27
28	826,126	'86084	37'9970	17'6970	19'9009	28
29	819,014	'87894	37'3253	17'5647	19'7261	29
30	811,816	'89876	36'6519	17'4293	19'5478	30
31	804,519	'91898	35'9798	17'2909	19'3662	31
32	797,126	'93866	35'3088	17'1493	19'1810	32
33	789,644	'95716	34'6387	17'0043	18'9921	33
34	782,086	'97412	33'9686	16'8553	18'7988	34
35	774,467	'98916	33'2978	16'7020	18'6007	35
36	766,806	1'00230	32'6255	16'5436	18'3971	36
37	759,121	1'01393	31'9507	16'3796	18'1873	37
38	751,424	1'02467	31'2729	16'2092	17'9707	38
39	743,724	1'03537	30'5915	16'0321	17'7469	39
40	736,024	1'04797	29'9063	15'8478	17'5154	40
41	728,310	1'06378	29'2177	15'6563	17'2761	41
42	720,563	1'08360	28'5265	15'4576	17'0294	42
43	712,755	1'10770	27'8335	15'2521	16'7755	43
44	704,860	1'13620	27'1397	15'0398	16'5147	44
45	696,851	1'16800	26'4458	14'8212	16'2474	45
46	688,712	1'20290	25'7525	14'5962	15'9737	46
47	680,427	1'24010	25'0599	14'3648	15'6936	47
48	671,989	1'27960	24'3683	14'1270	15'4071	48
49	663,390	1'32120	23'6777	13'8825	15'1141	49
50	654,626	1'36520	22'9880	13'6812	14'8142	50
51	645,689	1'41190	22'2993	13'3726	14'5074	51
52	636,572	1'46200	21'6115	13'1067	14'1934	52
53	627,266	1'51620	20'9247	12'8332	13'8721	53
54	617,755	1'57540	20'2392	12'5520	13'5435	54
55	608,023	1'63880	19'5551	12'2630	13'2074	55
56	598,059	1'70740	18'8726	11'9660	12'8639	56
57	587,847	1'78300	18'1917	11'6608	12'5127	57
58	577,366	1'87270	17'5129	11'3474	12'1539	58
59	566,554	1'96800	16'8376	11'0266	11'7884	59
60	555,404	2'08950	16'1656	10'6978	11'4158	60
61	543,799	2'23860	15'4909	10'3632	11'0384	61
62	531,625	2'41840	14'8433	10'0245	10'6581	62
63	518,768	2'62970	14'1988	9'6839	10'2772	63

Age.	Mort. p.c. Adjusted by the "True Law."	The Numbers Living.	The Expectation of Life.	Present Value of a Life Annu. of £1. Int. at 4 p.c.	Present Value of a Life Annu. of £1. Int. at 3½ p.c.	Age.
64	505,126	2'87190	13'5688	9'3432	9'8978	64
65	490,620	3'13890	12'9552	9'0042	9'5217	65
66	475,220	3'42690	12'3588	8'6679	9'1497	66
67	458,934	3'73420	11'7797	8'3345	8'7823	67
68	441,797	4'06110	11'2172	8'0041	8'4195	68
69	423,855	4'40960	10'6700	7'6766	8'0611	69
70	405,165	4'78090	10'1400	7'3520	7'7070	70
71	385,794	5'17900	9'6241	7'0300	7'3570	71
72	365,814	5'60950	9'1224	6'7105	7'0110	72
73	345,294	6'07950	8'6348	6'3936	6'6691	73
74	324,301	6'59680	8'1614	6'0798	6'3315	74
75	302,908	7'18200	7'7025	5'7696	5'9990	75
76	281,153	7'84690	7'2598	5'4647	5'6733	76
77	259,091	8'59580	6'8354	5'1672	5'3564	77
78	236,820	9'42750	6'4312	4'8792	5'0506	78
79	214,494	10'33630	6'0486	4'6026	4'7576	79
80	192,323	11'30300	5'6882	4'3385	4'4785	80
81	170,585	12'31570	5'3494	4'0870	4'2133	81
82	149,576	13'36860	5'0305	3'8475	3'9612	82
83	129,580	14'45910	4'7296	3'6189	3'7211	83
84	110,844	15'58710	4'4445	3'3998	3'4914	84
85	93,567	16'76040	4'1729	3'1887	3'2706	85
86	77,884	17'98910	3'9125	2'9840	3'0568	86
87	63,874	19'28710	3'6610	2'7840	2'8484	87
88	51,554	20'67350	3'4163	2'5873	2'6438	88
89	40,896	22'17560	3'1764	2'3920	2'4411	89
90	31,827	23'69250	3'9390	2'1965	2'2386	90
91	24,287	25'38080	2'6963	1'9937	2'0291	91
92	18,122	27'25200	2'4433	1'7787	1'8076	92
93	13,184	29'32050	2'1713	1'5428	1'5655	93
94	9,318	34'07231	1'8646	1'2701	1'2869	94
95	6,143	40'41080	1'5698	1'0036	1'0154	95
96	3,661	48'58419	1'2953	'7515	'7593	96
97	1,882	58'84070	1'0467	'5201	'5249	97
98	775	71'42857	'8283	'3141	'3166	98
99	221	85'10245	'6490	'1432	'1443	99
100	33	100'00000	'5000	....	....	100

The results of the investigation of 1860 correspond in their main features with those of 1829. The mort. of the male throughout life, after the age of infancy, is heavier than that of the female. As was the case in the T. of 1823, the new T. showed a temporary increase at the age of 23; but in the new T. the mort. at that age is not so heavy as in the old obs.; for the per-centage is not heavier than the per-centage at 43 years of age; whereas in the old obs. it was as that taking place at 48.

In the new *Female* T. the mort. p.c. at the ages 8 and 13 is the same, while in the old T. the mort. diminished slightly from 8 to 13. The new T. shows the minimum mort. to occur at the ages 10 and 11 years, while in the old T. the mort. also came really to a minimum at age 11—which, therefore, would seem to be the best age at which to select a life of the female sex for insertion in a lease, or for the purchase of an annu. The minimum mort. of the male sex is also at the same age.

The variance between the old and new T. regarding pecuniary values is very trifling indeed, where the interests of the male sex are in question: so much so indeed as to be altogether unworthy of the serious attention of either the vendors or purchasers. Where the female sex is concerned, however, the differences are of more importance. The new observation shows that annu. might be granted to female lives on more reasonable terms than those then in force—and Mr. A. G. Finlaison thought (in 1860) that the time had arrived when the Lords of the Treasury might determine upon some modification.

The specific results of the 1860 T. regarding *Female* life are briefly these. In childhood, *i.e.* at age 8, the female life was shown to possess $5\frac{1}{2}$ years greater mean duration (Expec.) than the male; in womanhood, that is, 28 years of age, $4\frac{1}{2}$ years; at the age of 58, $3\frac{1}{2}$ years; and in old age, viz. 78 years of age, $1\frac{1}{2}$ years. Mr. Finlaison says further hereon (p. 65):

Viewed through the medium of the life annu. the greater worth of the female life is equally evident. At the age of 8 the life annu. is worth nearly one year's purchase more to the female than to the male of the same age. At 28 years of age, rather more than 1 year; and at the life annu. purchasing age of 58 rather more than $\frac{1}{2}$ years; and at 78 fully one year more. These are substantial differences in favour of the female sex. But they are to a great extent supported by further obs. And if the

respective mort. of the sexes are not confirmed to their fullest extent by later and more lengthened experience, it does not follow that the accuracy of Mr. Finlaison's deductions at the time they were framed is questionable. For it should be kept in view that not only was the male experience of 1823 limited in number, but it was also alloyed by the intro. of assured life. While on the other hand the female annuitants, particularly those of the Sinking Fund, who were present in a majority of more than 40 p.c., were thus observed in a great degree in all their newness of selection.

The ann. rate of mort. p.c., the expect. of life, and the present value of an annu. at $3\frac{1}{2}$ and 4 p.c. by the T. of Mr. Finlaison in 1823, has already been given, and the difference in the same details by Mr. A. G. Finlaison's revised T. of 1860 is shown in the following T. of male and female life :

MALES.					FEMALES.				
Age.	Mortality p.c.	Expecta- tion.	Value of the Annuity.		Age.	Mortality p.c.	Expecta- tion.	Value of the Annuity.	
			At $3\frac{1}{2}$ p.c.	At 4 p.c.				At $3\frac{1}{2}$ p.c.	At 4 p.c.
3	'978	49'941	22'134	19'288	3	1'075	54'194	22'964	19'885
8	'646	46'990	21'669	18'972	8	'613	51'463	22'703	19'747
13	'597	43'317	20'785	18'289	13	'613	47'887	22'016	19'244
18	1'047	39'868	19'892	17'590	18	'828	44'539	21'355	18'764
23	1'368	37'250	19'349	17'201	23	'829	41'340	20'703	18'295
28	1'174	34'597	18'757	16'777	28	'861	38'000	19'901	17'697
33	1'176	31'509	17'855	16'078	33	'957	34'639	18'992	17'004
38	1'324	28'376	16'821	15'258	38	1'025	31'273	17'971	16'209
43	1'362	25'189	15'631	14'291	43	1'108	27'834	16'775	15'252
48	1'543	21'848	14'187	13'078	48	1'280	24'368	15'407	14'127
53	2'086	18'626	12'635	11'746	53	1'516	20'925	13'872	12'833
58	2'600	15'606	11'039	10'352	58	1'873	17'513	12'154	11'347
63	3'459	12'658	9'299	8'796	63	2'630	14'199	10'277	9'684
68	5'241	10'006	7'584	7'232	68	4'061	11'217	8'419	8'004
73	7'532	7'799	6'053	5'817	73	6'080	8'635	6'669	6'394
78	10'990	5'873	4'613	4'464	78	9'428	6'431	5'051	4'879
83	16'236	4'406	3'453	3'362	83	14'459	4'730	3'721	3'619
88	21'955	3'242	2'494	2'442	88	20'674	3'416	2'644	2'587
93	31'919	2'046	1'451	1'430	93	29'321	2'171	1'565	1'543
98	71'429	'828	'317	'314	98	71'429	'828	'317	'314

The following comparisons between the rate of mort. of the *English T. No. 3*, and that of the Gov. T. of 1860 affords some points of interest :

The chief noticeable feature in this comparison is that in the *English T.* at the youthful and earlier adult ages the female mort. is greater than that of the males : while in the Gov. Obs. the reverse is the case ; and this latter fact coincides with the results of other T. regarded as of high authority. Mr. Finlaison made this circumstance the text for a somewhat severe criticism upon the *English Life T.*, in which we do not propose to follow him.

The following T. gives the expect. for each sex under the two T., wherein some notable differ-

Age.	ANNUAL RATE OF MORT. OUT OF 100 LIVING.			
	<i>English Life T. No. 3.</i>		Government Life Annuitants.	
	Males.	Females.	Males.	Females.
0	17'815	14'370	.....	.....
1	6'753	6'246	.....	.....
2	3'675	3'742	.....	.....
3	2'498	2'608	'9784	1'0749
4	1'851	1'928	'9066	'9379
7	'867	'848	'7051	'6745
12	'476	'496	'5631	'5735
17	'664	'798	'9323	'8044
22	'842	'873	1'3638	'8325
27	'921	'959	1'2106	'8461
32	1'023	1'060	1'1509	'9387
37	1'162	1'177	1'3031	1'0139
42	1'354	1'311	1'3571	1'0836
47	1'615	1'464	1'4722	1'2401
52	1'960	1'810	1'9719	1'4620
57	2'563	2'390	2'4976	1'7830
62	3'785	3'291	3'2155	2'4184
67	5'469	4'806	4'8182	3'7342
72	8'027	7'230	7'0613	5'6095
77	11'876	10'852	10'0786	8'5958
82	17'431	15'957	15'1810	13'3686
87	25'120	22'814	20'6325	19'2871
92	35'393	31'655	29'2151	27'2520

ences are presented: It is seen that Mr. A. G. Finlaison arranges his Table so as to avoid the regular quinquennial ages—on the supposition, we assume, of avoiding the effect of “guessing” ages in making returns for registration. Inequalities, however, from such causes are supposed to be remedied by the process of graduation.

Specially Selected

Lives.—We have seen that there were included in the number of Life Annu. included in Mr. Finlaison's Obs. 675 male nominees of a special class. These for the purposes of the present investigation were subdivided into two sections—one consisted of 322 very old lives, all above the age of 73, and almost all of whom came in with the earliest re-opening in 1829 of the dealings of this species of investment. Con-

Age.	THE EXPECTATION OF LIFE.			
	Males.		Females.	
	English Life T. No. 3.	Combined Life Annuitants.	English Life T. No. 3.	Combined L. Annu.
3	50'03	49'94	50'25	54'19
4	50'28	49'43	50'56	53'78
7	49'39	47'66	49'77	52'11
12	45'95	44'07	46'33	48'61
17	42'08	40'49	42'64	45'18
22	38'63	37'73	39'33	41'99
27	35'24	35'17	36'04	38'67
32	31'85	32'14	32'75	35'31
37	28'47	29'00	29'47	31'95
42	25'12	25'84	26'18	28'53
47	21'82	22'52	22'86	25'06
52	18'58	19'25	19'51	21'61
57	15'39	16'20	16'32	18'19
62	12'48	13'24	13'31	14'84
67	9'92	10'50	10'58	11'78
72	7'72	8'21	8'23	9'12
77	5'89	6'23	6'30	6'84
82	4'44	4'66	4'79	5'03
87	3'33	3'47	3'64	3'66
92	2'50	2'30	2'78	2'44

1.—*T. of Aged Life Annuitants of the Sinking Fund, viz. Selected Lives of 73 Years and upwards—Males—as observed 10th June, 1856.*

Age.	SELECTED MALE LIVES.									Mort. p.c. at each Age.
	Aged from 73 to 84.			Aged from 85 to 92.			Both Classes.			
	Entered.	Dead.	Living.	Entered.	Dead.	Living.	Entered.	Dead.	Living.	
73	6	.....	.....	.....	.....	.....	6	.....	.....	.....
74	4	.....	.....	.....	.....	.....	4	.....	.....	.....
75	14	1	.....	.....	.....	.....	14	1	.....	4'1667
76	23	2	.....	.....	.....	.....	23	2	.....	4'3478
77	50	8	.....	.....	.....	.....	50	8	.....	8'5106
78	54	12	.....	.....	.....	.....	54	12	.....	8'5714
79	65	9	.....	.....	.....	.....	65	9	.....	4'6632
80	47	27	.....	.....	.....	.....	47	27	.....	11'6883
81	21	29	.....	.....	.....	.....	21	29	.....	12'8809
82	2	21	.....	.....	.....	.....	2	21	.....	10'6061
83	1	29	.....	.....	.....	.....	1	29	.....	16'2921
84	1	20	.....	.....	.....	.....	1	20	.....	13'3333
85	.....	18	.....	1	.....	.....	1	18	.....	13'7405
86	.....	17	.....	6	1	.....	6	18	.....	15'1262
87	.....	16	.....	7	.....	.....	7	16	.....	14'8148
88	.....	20	.....	8	3	.....	8	23	.....	23'0000
89	.....	12	.....	5	8	.....	5	20	.....	24'3902
90	.....	15	.....	4	4	.....	4	19	.....	28'7879
91	.....	8	.....	2	1	.....	2	9	.....	18'3674
92	.....	6	.....	1	1	.....	1	7	.....	17'0732
93	.....	5	.....	.....	7	.....	.....	12	.....	35'2941
94	.....	4	.....	.....	4	.....	.....	8	.....	36'3636
95	.....	4	.....	.....	1	.....	.....	5	.....	35'7143
96	.....	1	.....	.....	1	.....	.....	2	.....	22'2222
97	.....	2	.....	.....	2	.....	.....	4	.....	57'1429
98	.....	1	.....	.....	1	.....	.....	2	.....	66'6667
99	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
101	.....	1	.....	.....	.....	.....	.....	.....	1	.....
	288	287	1	34	34	.....	322	321	1	.....

The male nominee who was living in 1856 aged 101 died in March, 1857, in his 103rd year.

cerning some of these we have already given some details under date 1834. The remaining 343 lives ranged from the age of 58 to 73 years, "and were sent in by sets from one or two City Life Ins. Offices, on financial principles best known to themselves" (p. 15).

We propose to follow Mr. Finlaison's special investigation into the mort. of these two subdivisions of nominees, as set out in the following T.—these being abstracts only of the entire results. The first T. applies to the 322 old lives only [and is given by us on the preceding page 521]; the second embodies the entire 675 specially selected lives.

2.—*T. of Males of the Sinking Fund, above the Age of 58; Selected Lives only, of both classes, as observed to 8th May, 1854 (ungraduated)*—A. G. Finlaison.

Age.	SELECTED MALE LIVES.						
	Enrolled.	Died.	Alive at close of Obs.	Subject to Mort.	Grouped Quinquennially.		Mort. p. c. at each Age.
					Subject to Mort.	Deaths.	
59	7			3'5	468	7	1'49573
60	50	.....	4	32			
61	61	1	13	83'5			
62	91	3	25	145'5			
63	81	3	17	203'5			
64	63	7	17	255'5	1191'5	38	3'18926
65	.....	8	2	263			
66	.....	6	16	253			
67	.....	8	34	231			
68	.....	9	36	189			
69		5	43	144	345	10	2'89855
70	.....	3	42	96			
71	.....	1	22	51			
72	.....	1	4	28			
73	6	.....	7	26			
74	4		9	24	267'5	23	8'59813
75	14	1	4	24			
76	23	2	3	37'5			
77	50	8	.....	69			
78	54	12	.....	113			
79	65	9		160'5	957	115	12'01671
80	47	27	.....	207'5			
81	21	29	.....	214'5			
82	2	21	.....	197			
83	1	29	.....	177'5			
84	1	20		149'5	596'5	95	15'92624
85	1	18	.....	130'5			
86	6	18	.....	116			
87	7	16	.....	104'5			
88	8	23	.....	96			
89	5	20		79'5	262	65	24'80915
90	4	19	2	64			
91	2	9	.....	46			
92	1	5	.....	38'5			
93	.....	12	.....	34			
94		7	3	22	47	16	34'04255
95	.....	4	1	12			
96	.....	2	.....	7			
97	.....	2	2	5			
98	.....	1	.....	1			
	675	369	300	4134'5			

1861.—There was pub.: *Letter on Rep. and Obs. on the Mort. of the Gov. Life*

Annuitants, 1860, by Alex. Glen Finlaison, Esq., Actuary to the National Debt, from Jardine Henry, S.S.C., Edinburgh (Author of the Gov. Annu. T. Lond. 1859), to Mr. Finlaison, wherein he institutes a comparison between the results of the two inquiries as follows :

Mean Duration of Life.

Age.	MALES.				Age.	FEMALES.				MALES & FEM.		Age.
	Experience from 1693 to 1823.	Experience from 1693 to 1853.	Difference. Males to 1823 and Males to 1853.			Experience from 1693 to 1823.	Experience from 1693 to 1853.	Difference. Females to 1823 and Females to 1853.		Experience from 1693 to 1823.	Experience from 1693 to 1853.	
			Males to 1853 plus.	Males to 1853 minus.				Femls. to 1853 plus.	Females to 1853 minus.			
Years.	Years.			Years.	Years.							
5	47'691	48'090	'399	5	52'227	52'537	'310		4'536	4'447	5	
10	44'373	44'800	'427	10	49'109	49'388	'279		4'736	4'588	10	
15	40'653	41'054	'401	15	45'315	45'573	'258		4'662	4'519	15	
20	37'404	37'822	'418	20	42'116	42'275	'159		4'712	4'453	20	
25	35'185	35'608	'423	25	38'821	39'030	'209		3'636	3'422	25	
30	32'497	32'907	'400	30	35'573	35'807	'234		3'076	2'900	30	
35	29'391	29'858	'467	35	32'380	32'665	'285		2'989	2'807	35	
40	26'241	26'718	'477	40	29'049	29'336	'287		2'808	2'618	40	
45	23'040	23'604	'564	45	25'647	25'888	'241		2'607	2'284	45	
50	19'481	20'116	'635	50	22'426	22'602	'176		2'945	2'486	50	
55	16'469	17'088	'619	55	19'014	19'220	'206		2'545	2'132	55	
60	13'514	14'106	'592	60	15'752	15'956	'204		2'238	1'850	60	
65	10'933	11'317	'384	65	12'686	12'775	'089		1'753	1'458	65	
70	8'694	8'841	'147	70	9'930	10'021	'091		1'236	1'180	70	
75	6'900	6'809		75	7'587	7'565		'022	'687	'756	75	
80	5'039	5'126	'087	80	5'619	5'603		'016	'580	'477	80	
85	3'592	3'741	'149	85	4'267	4'054		'213	'675	'313	85	
90	2'578	2'738	'160	90	2'748	2'797	'049		'170	'059	90	
95	1'000	1'500	'500	95	2'832	2'171		'661	1'832	'671	95	
Total	404'675	411'843	7'259 '091	'091	Total	453'098	455'263	3'077 '912	'912	48'423	43'420	
Aver.	21'299	21'676 21'299			Aver.	23'847	23'961 23'847		Aver.	2'548 2'285	2'285	
	Aver. Differ.	'377	7'168			Aver. Diff.	'114		Aver. Diff.	'263		
		Aver. Diff.	'377				Aver. Diff.	'114				

He offers the following general remarks hereon :

It cannot but be regarded as an extraordinary coincidence, after the long doubt that has been entertained by many eminent actuaries upon the reliability of the T. of 1829, that, after the addition of the immense accession of experience obtained during the last 30 years, which has increased the number of deaths of males from 4870, at which figures this stood in 1823, to 9569 in 1853, and of females from 5207, in 1823, to 12,894, in 1853, and the total deaths thus from 10,077 up to 1823, to 22,463 up to 1853, it cannot be otherwise regarded, I say, than as a very remarkable fact that the average duration of human life, brought out by the two sets of T., does not differ so much as 2 months for females, and 5 months for males; being less than three months, or the fourth of a year, for the difference on the whole.

After the statements impugning the accuracy of Mr. John Finlaison's T., up to 1823, even as regards the number of *years* duration—it being very generally affirmed that these T. were overstated by at least 2 or 3 years of mean duration—a more complete proof of their accuracy than that furnished by the results of the added experience up to 1853 could scarcely be expected than is furnished by the results of the latter, which triumphantly estab. the essential, and even the minute accuracy of Mr. John Finlaison's facts, as ascertained up to 1823, by their almost entire agreement with the greatly increased mass of facts furnished by the combined experience up to 1853.

He next institutes the following comparison [see Table on next page 524] :

Finally he says :

It is thus apparent that the two T. of obs.—1st to 1823, and 2nd to 1853, both from commencement (1693)—give almost identical results, practically speaking—

For the greatest individual difference on the average duration of life in *Males*, occurring at age 50, is only '335 of a year, or 33 weeks; and the average difference for Males is '377 of a year, being 20 weeks.

For *Females*, the greatest individual difference in the mean duration of life, occurring at age 5, is '310 of a year, or 16 weeks; and the average difference for Females is '114 of a year, or 6 weeks.

As regards the difference of mean duration between Males and Females, the greatest difference in the 1st set of T.—viz. to 1823, occurs at age 10, where it is 4'736 years; the average difference being 2'548 years, or as near as may be, 2½ years.

In the second set of T.—viz. to 1853—the greatest difference of mean duration also occurs at age 10, being 4'588 years, and the average difference is 2'285 years, or rather above 2½ years. The difference of average between the two sets of T. is thus '263, or rather more than ¼ year as regards the difference of duration in Males and Females; being, to that extent, less by the second set of T.

With reference to the *money values*, the results are, of course, as regards difference, proportionately less. For while the average difference for Males is, as above, 20 weeks upon upwards of 21 years of mean duration, by either T., or less than a 52nd part, the average difference in the value of an Annuity on a single Male life, at 4 p.c. interest, is '148 of a year's purchase, or less than eight weeks' purchase of the Annu., while the total average value, by either T., exceeds 11 years' purchase; the difference being thus less than the 70th part of the average value. The greatest individual difference in value

Value of an Annuity of £1 p.a., at 4 p.c. p.a. Interest.

Age.	MALES.				Age.	FEMALES.				MALES AND FEM.		Age.
	Experience from 1693 to 1823.	Experience from 1693 to 1853.	Difference. Males to 1823 and Males to 1853.			Experience from 1693 to 1823.	Experience from 1693 to 1853.	Difference. Females to 1823 and Females to 1853.		Experience of 1693 to 1823.	Experience of 1693 to 1853.	
			Males to 1853 plus.	Males to 1853 minus.				Femls. to 1853 plus.	Females to 1853 minus.			
5	19'043	19'077	'034		5	19'759	19'812	'053		'716	'735	5
10	18'528	18'583	'055		10	19'456	19'502	'046		'928	'919	10
15	17'746	17'798	'052		15	18'803	18'850	'047		1'057	1'052	15
20	17'048	17'113	'065		20	18'327	18'335	'008		1'279	1'222	20
25	16'797	16'866	'069		25	17'744	17'776	'032		'947	'910	25
30	16'308	16'376	'068		30	17'105	17'154	'049		'797	'778	30
35	15'539	15'644	'105		35	16'410	16'495	'085		'871	'851	35
40	14'629	14'755	'126		40	15'535	15'637	'102		'906	'882	40
45	13'563	13'760	'197		45	14'488	14'579	'091		'925	'819	45
50	12'080	12'361	'281		50	13'388	13'456	'068		1'308	1'095	50
55	10'733	11'052	'319		55	11'986	12'088	'102		1'253	1'036	55
60	9'221	9'579	'358		60	10'466	10'586	'120		1'245	'917	60
65	7'770	8'027	'257		65	8'842	8'866	'054		1'072	'869	65
70	6'382	6'490	'108		70	7'207	7'278	'071		'825	'788	70
75	5'211	5'132		'079	75	5'679	5'668		'011	'468	'536	75
80	3'844	3'917	'073		80	4'274	4'276	'002		'430	'359	80
85	2'713	2'835	'122		85	3'272	3'091		'181	'559	'256	85
90	1'882	2'029	'147		90	1'992	2'055	'063		'110	'026	90
95	'481	'939	'458		95	2'105	1'542		'563	1'624	'603	95
209'518				2'894	226'838				'993	17'320	14'743	
				'079					'755			
Av.	11'027	11'175			Av.	11'939	11'951			'912	'776	
				2'815					'238			
Difference on average of Males... 148				'148	Difference on average of Fems... 012				'012			

upon the two sets of T. is, for Males, at age 60, where it is '358, being nearly 19 weeks' purchase. For Females, the differences are considerably less. The average difference is, for these, only '012 of a year's purchase, or less than one week's purchase. The greatest individual difference (under 85) occurs also at age 60, and is '120 of a year's purchase, being 6 weeks' purchase.

In Joint Lives, Male (Elder) and Female Life, 4 p.c. int.: the average difference of value is '148 of a year's purchase, or less than 8 weeks' purchase, being about a 51st part of the average value by either set of T. The greatest individual difference under 80 occurs at ages 55 and 5, being '303, or 16 weeks' purchase.

Finally:

I think I am justified, by these results, in arriving at the conclusion already stated, viz. that the T. are, in all essential points, identical; and, therefore, that the money results deduced by me in the 76,000 cases contained in the "Gov. Annuity Tables," may be held as the correct representation of the value of human life, according to the whole experience of the Gov. Life Annuitants.

It seems to us that Mr. Henry is altogether under a misapprehension in supposing that the results of mort. under the 1693 Tontine were taken into account by Mr. A. G. Finlaison. He went no further back than the first Irish Tontine, 1773.

1864.—For the Annu. portion of the Gov. [Post Office] scheme of Ins. adopted under the Act of this year Mr. A. G. Finlaison calculated the rates from the same data as that used in 1830, viz. Obs. 13 and 20 of Mr. Finlaison's report of 1829.

1866.—Mr. Jardine Henry pub. vol. i. 4to. of *Gov. Life Annu. Commutation T. for Single and Two Joint Lives*, at 0, 1, 2, 2½, 3, 3½, 4, 5, 6, 7, 8, 9, and 10 p.c. p.a.; and for *Three and Four Joint Lives* at 3 and 6 p.c. p.a., founded on the Actual Experience of the whole Tontines and Life Annu. of the Brit. Gov. up to 1823, as contained in Mr. John Finlaison's Rep. printed by Order of the Ho. of Commons, 31 Mar. 1829; corroborated by the further Experience of the same, from 1823 to 1853, as contained in Mr. Alex. Glen Finlaison's Rep. printed by Order of the Ho. of Commons, 25 Aug. 1860; with T. showing on Inspection the new Premis. for an Assu. of £100 by the above, or any other T., for Single, Two, Three, and Four Joint Lives, at 3 p.c. p.a.; and, also, on Addition, of Constants at all other Rates.

This work it is supposed will extend over 8 vols. Vol. ii. (part 1) was pub. in 1873, with a slightly-altered title.

1867.—Mr. Jardine Henry submitted to the Inst. of Act. a paper: *Rate of Mort. 1761 to 1861*—his conclusions relating to the earlier period purporting to be based upon Mr. Finlaison's Obs. of 1829. His mode of treating the question did not find favour with the Inst., and his paper is not printed in the *Assu. Mag.*; but an abstract of it, and the discussion thereon, is given in the *Ins. Record* of Feb. this year.

1872.—Under the Life Assu. Cos. Amendment Act of this year—35 & 36 Vict. c. 41—it is provided (Schedule 1) that in the case of the winding-up of any Life Ins. Asso., the annu. shall be valued according to the T. in use by each particular Co. at the time of

granting the annu.; but "where such T. cannot be ascertained or adopted to the satisfaction of the Court, then according to the T. known as the Gov. Annu. Experience T., int. being reckoned at the rate of 4 p.c. p.a." That is to say, by the T. No. 14 for males, and No. 15 for females, of Mr. A. G. Finlaison's Rep. of 1860.

Mr. James Meikle this year, in his able *Obs. on the Rate of Mort. of Assured Lives, as experienced by Ten Assu. Cos. in Scotland from 1815 to 1863*, after reviewing the results of Mr. John Finlaison's Obs. in 1829, and those of Mr. A. G. Finlaison in 1860, in comparison with the *English Life T.*, and the statistics of insured life, observes, with great sagacity (p. 17):

The conclusions to be drawn from these varying statistics are that *each class* of lives—viz. 1. The lives to whom annu. have been granted, and on whose *extended lifetime* advantage to the life depends; 2. The lives enrolled in the books of assu. offices, from whom annu. (of ann. prems.) have been purchased (by a price payable at death), and on whose early death advantage to the life (or the representatives) depends; 3. The lives of the pop.—is subject to its own peculiar law of mort., and that calculations drawn from the results of one of these classes can only properly be re-applied to that particular class. In the case of annuitants it may very likely be ascertained that the mort. of nominees of persons investing against the Gov., or even against an Ins. Co., may differ very materially from that of ordinary annuitants investing their total means in purchasing a life-enduring subsistence. It would accordingly be highly interesting to ascertain the law of mort. of ordinary annuitants. The Gov. annuitants were selected in early life, those of Assu. Cos. in the later years of life. The statistics of the latter would be mature, since all the lives go off by death, and the results would, it is thought, be valuable for the guidance of the offices.

1874.—Speculative Operations in Life Annu.—The operations in Life Annu. of which we have spoken in some detail under dates 1834, 1852, and 1860, came before the English Law Courts this year on the ground of mis-statements made in the age of the nominees by some of the Life Offices which had been concerned therein. The Commissioners did not impute wilful misrepresentation to the operating offices, or their officials. The officers of the Treasury instituted proceedings, and very large sums of money were recovered. On this occasion the amounts refunded by several offices amounted to £68,500; on other occasions other sums had been returned. It is prob. that in this manner, at different times, £100,000 or upwards—much larger figures are sometimes quoted—has been recovered to the National Treasury. The case before the Courts this year is known as *Chalk's case*.

In addition to the selection of lives at advanced ages, and purchasing annu. thereon—wherein sums amounting in the aggregate to very large figures have been staked, and mostly with advantage to the operators of this class—another species of speculation was very prevalent early in the present century, when the funds were frequently very low: and this was to buy largely of Consols at low prices; keep them until the price had become enhanced, and then exchange them for life annu. on selected nominees—the annu. being larger as the funds approached more nearly to par. Certain Life Offices greatly enhanced the rate of int. realized on their investments in this manner, and without running any very serious risk: for funds bought low were in themselves a very good investment quite apart from ulterior operations.

1880.—Mr. Alex. J. Finlaison, the present Actuary to the National Debt Commissioners, has nearly completed a further investigation into the mort. of Gov. Annuitants, brought down to a recent period. It is understood that the results will not differ materially from those of Mr. A. G. Finlaison in 1860.

GOVERNMENT LIFE ANNUITIES ACTS.—The 48 Geo. III. c. 142 (1808); 9 Geo. IV. c. 16 (1828); 10 Geo. IV. c. 24 (1829); 2 & 3 Wm. IV. c. 59 (1831-2); 3 & 4 Wm. IV. c. 24 (1832-3); 16 & 17 Vict. c. 45 (1852-3); 27 & 28 Vict. c. 46 (1864); 36 & 37 Vict. c. 44 (1873).

SEE FRIENDLY SOS.; POST OFFICE SAVINGS BANKS; SAVINGS BANKS.

GOVERNMENT LIFE ASSU. CO.—A scheme under this title was projected in 1851 by Mr. John Neville Warren, Civil Engineer. We believe no details were pub. In the following year it was again revived, but finally collapsed.

GOVERNMENT OFFICE AND GENERAL LIFE AND GUARANTEE INS. CO.—Prov. regis. 20 Sept. 1848, but never completely regis.

GOVERNMENT OFFICERS LIFE AND FIDELITY CO.—A project under this title was set on foot in 1849, but did not go forward. It was not unlikely a revival of the scheme of the preceding year under an altered name.

GOVERNMENT SECURITIES.—Ins. Asso.—Life Offices especially—have been accustomed, very wisely, to keep some portion of their funds invested in Gov. Securities. As, however, the market price of these securities fluctuates, there has not unfrequently arisen the question of how such securities should be valued in making up the ann. and other statements. Mr. E. J. Farren read before the Inst. of Actuaries in 1855 a paper: *On the Valuation of Gov. Securities*, and the same is printed in *Assu. Mag.* (vol. v. p. 310). After explaining the various methods then adopted, he concludes in favour of the "average price" plan—the average price being determined by the quotations taken at equal periods of 3 months. [CONSOLS.] [EQUITABLE SOCIETY.] [LIFE INS. INVESTMENTS.]

GOVERNMENT SECURITIES CO-OPERATIVE FIRE INS. CO.—Founded in 1875, with an authorized cap. of £258,645, divided into 51,729 shares of £5, to carry on the bus. of Fire Ins. The scheme was understood to be founded by the Chevalier Harry Clench [Stanley], and the following were its more distinctive features.

For the security of the insured the Directors propose annually to set aside 20 p.c. of the net profits as a Special Reserve Fund, to be invested every year in the British 3 p.c. Consols in the names of the Trustees; the int. to be applied with the current receipts to the payment of claims, and to the current expenses of the Co. The Directors might from time to time declare a dividend not exceeding 10 p.c. p.a. on the shares. In any year after such payment the profits were to be applied towards payment of a div. of 10 p.c. p.a. to the pol.-holders on the amount they had paid in premis. in such year—provided they had made no claim on the funds during the year. Further profits to be divided between share and pol.-holders.

The first bal.-sheet of the Co. made up to June, 1877, showed a prem. receipt of £1875, against an expenditure of £26,000—of which, however, £21,606 was incurred for advertising. The loss on the first year's trading was over £24,000. The cap. account showed that 8794 shares had been issued, upon which the whole £5 had been called; and the sum of £38,000 was credited as paid. Regarding a considerable amount of this cap. the facts next to be stated will throw a very unpleasant light.

A most ingenious device was propounded by the promoter for getting the Co. widely advertised—the advertisements were paid for by means of fully paid-up shares (so-called) to the extent of about 4000 in number; hence the names of various persons of local respectability were placed upon the regis.; but the agreement required to be filed under the Companies Act of 1867 in the case of paid-up shares was either overlooked or deemed unnecessary. In the winding-up, which speedily followed, these entirely innocent, but deluded, newspaper proprietors, found themselves on the list of contributories, liable for the full amount of the shares they had so taken in discharge for services rendered to the Co. The Courts of Equity upheld this view! See *White's Case*, Law Rep. 1878, and on appeal 1879.

In Nov. 1877 it was declared that the Co. could not by reason of its liabilities continue its bus.; and it was resolved to wind up. Earlier in the year a petition had been presented for the purpose, but had been paid out.

A committee of investigation was appointed, and the following is the substance of its Rep.: The Co. has outstanding risks in respect of which it has received premis. and which have various periods to run. Some expire at Christmas, some at Midsummer. These risks amount to £87,000. Of this sum £51,000 may be taken as representing ordinary risks and £36,000 as representing hazardous risks. Among the latter may be mentioned £1500 on an oil and colour stock, £1500 on a soap and candle factory, £3000 upon a paper manufactory, £3200 on the stock of a newspaper proprietor and printer, £5000 on a steamer, and several large amounts upon machinery and also upon farm stock. None of these risks are re-insured either wholly or in part. If a loss should occur upon any risk, the assets of the Co., amounting in reliable value to £750, would alone be available to meet it, and the money debts already amount to £1500, so that the chance of a claim being paid is but remote. There would, indeed, be no chance at all but for the circumstance that some 4000 shares have been issued as paid-up in full to newspaper proprietors in payment for advertisements. . . .

We are glad to see that by a judgment of V.C. Hall *re* Mudford's claim (May, 1880) some measure of justice is at length granted to these deluded newspaper proprietors. They are to be allowed proof on the assets for the full amount of the paid-up shares to which they were entitled in payment for the advertisements.

The voluntary winding up is still proceeding, Mr. W. C. Cooper being the Liquidator.

GOVERNMENT SECURITIES INS. SCHEMES (GENERALLY).—These have been reviewed in some detail under CONSOLS INS.

GOVERNMENT SECURITIES LIFE OFFICE LIM.—Founded in 1875, with an authorized cap. of £100,000, in shares of £1 each, to be fully paid. First issue 50,000 shares.

The joint promoters of the scheme were understood to be Messrs. T. H. Baylis and J. E. Leyland. The following is a brief outline of the scheme.

Eighty p.c. of the premis. to be compulsorily invested in Gov. securities in trust for the pol.-holders. The term "Government Securities" was not to be understood as limiting the investments to Consols. Indian and Colonial Government stocks, which yield a considerably higher interest, were to be embraced within the range of the investments. The polys. were to contain stipulations for surrender, if desired, at 40 p.c. of the premis., and each prem. was to assure a proportionate amount of the whole ins. Lives in India and other tropical climates were not to be insured at European rates, but were to pay higher premis. equivalent to the increased risk.

There were boards of Trustees in Scotland and in Ireland, with Provincial Trustees, Central Trustees, Committees of Medical Referees, and a most elaborate show. It was further announced that over 40,000 of the shares had been applied for; but just about the moment of allotment, a split in the ranks occurred; the £20,000 required to be deposited under the Life Assu. Cos. Act of 1870 could not be raised, and the entire project collapsed.

It may be useful to preserve for future reference a more detailed outline of the scheme in the language of its promoters:

The advantages which this Co.'s plan of bus. will confer upon *Policy-holders* are:—

1. Life business alone will be undertaken, thus avoiding the uncertainties of Fire and Marine Ins.

2. Permanent Trust Funds will be created for 80 p.c. of every prem. paid, and 25 p.c. of the paid-up cap. invested in Gov. Securities, for the sole purpose of meeting the policy-holders' claims.

3. Coupons will be issued payable to bearer, on payment of each prem., for a proportionate sum assured due thirty days after proof of death; or convertible into cash by the holder on three days' notice, for 40 p.c. of the prem. paid.

4. The pol. will be indisputable and as brief and simple and free from restrictions as possible. Travelling in all parts of the world will be allowed free of charge, and to those who have no immediate intention of residing within the tropics, whole-world license will be granted without extra premiums.

5. An open Register, showing at all times the amount invested to the credit of each pol. and coupon, will be kept for the inspection of the assured on production of their pol. or coupons.

6. An ann. distribution of profits, 80 p.c. of which belong to the policy-holders.

7. Age calculated at the nearest instead of the next birthday.

8. Claims paid 30 days after proof of death.

9. The rates of prem. will be as moderate as is consistent with absolute safety.

The advantages offered to *Shareholders* will be :—

1. Participation in what has invariably hitherto, when commenced on a solid basis, and conducted with ordinary prudence, proved a most lucrative investment.

2. 5 p.c. interest, payable half-yearly, together with 20 p.c. of the profits, ascertained ann., instead of every five or seven years.

3. As no calls will be made until £50,000 cap. has been *bonâ fide* applied for (£20,000 of which must be paid into the Court of Chancery before Regis. is obtained), there is no risk of business being commenced, as is so often the case, on an insufficient capital.

4. Two classes of shares issued, viz. those payable to bearer, transferable from hand to hand, called *Share Warrants*, and *Registered Share Certificates*, necessitating the usual transfers.

5. Liability absolutely limited to the £1 p. share paid up.

"And to both *Policy* and *Shareholders* the following most important benefits will accrue":

1. Power being taken to invest the Trust Funds for British policy-holders in British, Colonial, or Indian Gov. Securities, *the great disadvantage of limiting the investments to Consols is avoided*, and thereby a considerably higher rate of int. is secured, with corresponding improved prospects of larger ann. dividends and bonuses.

2. And on the point of expenditure, the rock on which so many Life Offices have been shipwrecked, the Directors will be *absolutely limited*, for they cannot entrench upon the Trust Funds, as every penny necessary to be reserved to meet the pol. liabilities *must* be set aside as an inalienable trust.

"It will thus be seen that those who assure with this Office will have the following benefits conferred upon them":

1. Eighty p.c. of all prem. received at once invested in Gov. Securities, in Trustees' names, solely to secure their pol.

2. They will receive in exchange for every prem. paid an absolute reversion, which nothing can vitiate, payable to bearer 30 days after proof of death of the assured.

3. A coupon payable in cash to bearer 3 days after sight for 40 p.c. of each prem.

4. The additional security of a permanent guarantee Trust Fund of one-fourth of the paid-up cap., invested in Gov. Securities, for the sole purpose of protecting their pol.

5. £20,000 deposited with the Court of Chancery as a proof of *bona fides*. And notwithstanding that the Act requires that sum to be returned to the Co. on the Reserve Fund reaching £40,000, it will, when so returned, be invested permanently with the Central Trustees, as a still further protection to pol.-holders.

6. Inalienable Trust Funds, which cannot, under any circumstances whatever, be charged, mortgaged, or assigned.

7. Separate Trusts will be created in cases where the extent of bus. likely to be derived may warrant it. They can be constituted by the simple process of inserting the scope of the trust and the names of the Trustees in a settled form of trust deed. Thus in a most inexpensive manner there may be formed separate Trusts for the large centres of pop., as well as for each of the various professions or trades, for the clergy and denominational trusts; the Army, Navy, and Civil Service, etc. Indeed, the principle is capable of unlimited extension, at home or abroad, wherever a profitable bus. may be transacted. Each trust will, as it were, become a special Life Office, with its own inalienable funds in Gov. Securities, in charge of its own custodians, and having the benefit of the Guarantee Trust Fund, and the entire staff of the Co., as well as the right to parti. in the whole of the profits, thus forming part of a vast and extended machinery, deriving its motive power from the central organization in London.

GOVERNMENTAL SUPERVISION OF INS. ASSO.—This important question will fall to be considered in some detail under STATE SUPERVISION. The Regulations existing in *France* and in *Germany* have already been reviewed under those respective titles. In the *United States* the system has been carried to an extent not yet attempted elsewhere.

The system there may be regarded as tentative: it is on its trial, and the results cannot be deemed satisfactory. While some good has admittedly resulted, many evils have crept in, as is now very generally recognized.

GOVERNMENT TONTINE ANNUITY ACTS.—29 Geo. III. c. 41 (1789); 30 Geo. III. c. 45 (1790); and 2 & 3 Wm. IV. c. 59 (1831-2).

GOVERTS, (HERR) E. F.—Has compiled statistics of the bus. of Marine Ins. in *Hamburg*, which will be noticed in more detail in our review of the Ins. history of that City.

GOWER, RICHARD HALL.—Pub. in 1811: *Remarks relative to the Danger attendant on Convoys; together with a Proposition for the Better Protection of Commerce from Sea Risk and Capture.* [CONVOY.]

GRACE, DAYS OF.—Under DAYS OF GRACE we have given an outline of their practical and legal significance in relation to contracts of bus. We have here briefly to speak of them in their ordinary commercial sense: where they are understood as days allowed by law or custom for the payment of a note, or bill of exchange (except those payable on demand or at sight), after the specified day of payment: Thus when 3 days of grace are allowed, a note or bill due on the 7th of the month is payable on the 10th. It is presented

on the last day of grace. If the day on which the bill falls due (grace added) happens to be a Sunday or a Bank Holiday, the bill is payable on the preceding day.

As to foreign bills, the custom varies with the usage of the place where payable. In *France* there are no days of grace.

The following notes are to be regarded as supplemental to the facts given under DAYS OF GRACE.

1710.—The *Sun* Fire, founded this year, only allowed 10 days within which the quarterly prems. were to be paid. (See Regulation xiii.)

1720.—The *Friendly* Fire, founded in *Edinburgh* this year, gave 30 days grace for the payment of prems., but shut out all claims for loss arising within the period, unless the prem. were paid.

1722.—The *Royal Exchange* Corp. The days of grace were limited to 14.

1805.—The *Westminster* Fire gave 15 days grace.

1860.—On 10th Oct. of this year the premises of Messrs. Goodheart, the great sugar-refiners, at Limehouse (London), were burned. The fire pol. had expired on 29 Sept., and had not been renewed. Some of the Offices concerned, on the prem. being tendered after the fire, demurred to receiving the same. The law, as determined in the case of *Tarleton v. Stainforth*, had upheld this view: for the more recent case of *Salvin v. James* was governed by the conditions of the office wherein the ins. was effected. *From this date the practice of the Fire Offices became uniform, that fires occurring within 15 days after the expiry of ann. pol. [not short-term pol.], the Co. would hold itself liable.* [FIRE INS., CONDITIONS OF.] [FIRE INS. POL.] [FIRE INS., PRACTICE OF.] [FIRE INS. RENEWALS.]

For the practice as to other branches of Ins., see DAYS OF GRACE.

GRADUAL DECAY.—This, as applied to human life, is a popular rather than a scientific term. In some of the early B. of Mort. it was rendered "Decay of Life"; but more generally was represented by the term "Age" or "Old Age." "Senile Debility" is a modern medical term signifying the same in effect.

Dr. Fleming, in his *Medical Statistics of Life Assu.* (1862), framed a T. in view of showing the per-centage of deaths from gradual decay in various Life Offices, as compared with the general pop.; but he admitted that the uncertainty of the nomenclature much diminished the value of the results. The per-centage of deaths on the whole pop. of England was given as '029; in the *Scottish Amicable* on all lives at risk '028; in the *Gotha* Life '061—or twice as great as in the other cases. The per-centage on deaths from all causes was, on the English pop. 1'87; in the *Gotha* Life 3'32; in the *S. Amicable* 2'06; in *S. Widows Fund* 2'42; in the *Standard* 3'23; in the *North British* 3'76; in the *Equitable* So. (Lond.) 13'82. But apart from the variation in nomenclature, the age of the Ins. Office will have some determining influence.

See also GOMPERTZ'S HYPOTHESIS.

GRADUATION OF MORT. TABLES.—Under title ADJUSTMENT OF T. OF MORT. we have given a brief summary of the causes which render this process necessary. The subject is one which continues to engage much attention; and it becomes desirable, in view of completeness, for us to recur to it in more detail under the present title. It will be seen in what follows that while the object of graduation is always the same, the methods of effecting it have been very varied. These may be classed under three heads—1. Arbitrary, *i.e.* adapted to the particular T. in hand, without reference to any defined principle. 2. By the application of a Hypothetical Law of Mort. in approximate accord with the results under treatment. 3. The distributive process, of which Mr. Woolhouse's formula furnishes the best recognized type; or which is aimed to be accomplished by the *Graphic* method. Each of these will be especially noticed as we proceed. Considerable caution has to be employed in either case to retain the distinctive features of the collective facts under treatment—for unless this circumstance be regarded, one T. will hardly be of more value than another; and perhaps in every case it is essential in the extended use of T. of Mort. for the actuary to keep in mind the process of graduation which has been employed.—See 1877, Mr. Sutton's paper.

1725.—De Moivre deduced his celebrated Hypothesis this year, from a study of the *BRESLAU* T. OF MORT. This was the first scientific attempt at obtaining graduated results, and afforded a very near approximation to the expc. of life shown by the *Northampton* T., afterwards constructed by Dr. Price. The method was empirical. [DE MOIVRE'S HYPOTHESIS.]

1765.—Herr Lambert deduced by means of a curve the Law of Mort. as exhibited in the *London B. of Mort.* This was prob. the first instance of graduation by the *Graphic* method. [LAMBERT, JOHN HENRY.]

1815.—Mr. Milne pub. his *Treatise on the Valuation of Annu. and Assurances*, etc.; and in his chap. on the Construction of T. of Mort. (but more particularly at p. 101), explains the *Graphic* method of graduation which he employed, of which the distinguishing feature was, that instead of graduating the ratio of deaths to pop. in the several intervals of age, he adjusted the deaths and the pop. independently, and then proceeded to form the ratio of deaths to pop. for each year of life. The effect of this mode of procedure upon the final mort. results has been very clearly pointed out by Messrs. King and Geo. T. Hardy in their paper mentioned under date 1880.

1825.—Mr. Benjamin Gompertz evolved his famous *Hypothesis*, as a scientific principle of Graduation, more applicable to the development of the true Law of Mort. than any which had preceded it. [GOMPERTZ'S HYPOTHESIS.]

1829.—Mr. John Finlaison, in his Rep. on the Mort. of the Gov. Annuitants, laid before Parl. this year, gave a very happy illustration of the causes which may operate when a small community is under obs. to render graduation of the results a necessity. See GOV. LIFE ANNUITANTS, MORT. T. FOR, this date.

The first pub. distributive method of adjusting Mort. T. was that given by Mr. John Finlaison in his Rep. of the year 1829. An objection has, however, been truly urged against his system: namely, that since it gives the same relative weight to values equidistant from the central quantity which is to be adjusted, it tends to produce a series approximating to an arithmetical progression.—A. G. Finlaison, *Assu. Mag.* vol. xxi. p. 49.

See also letter from Mr. H. Ambrose Smith in *Assu. Mag.* vol. xiii. pp. 58-9.

1832.—Mr. T. R. Edmonds graduated his *Life T.*, pub. this year, by means of a scientific formula which has already been fully discussed under GOMPERTZ'S HYPOTHESIS. [See his Chap. II.]

1838.—Prof. De Morgan, in his well-known *Essay on Prob.*, pub. this year, writing of Mort. T. (c. viii. p. 162), said:

Until Obs. of Human Mort. become more extensive and correct, I prefer the T. of mean duration to all others. The events of single years are subject to considerable error, and generally present such varieties of fluctuation, that it has become usual to take some arbitrary and purely hypothetical mode of introducing regularity. *This practice cannot be too strongly condemned, since the T. thereby lose some of their value as representations of physical facts, without any advantage ultimately gained.* For it by using the raw results of experiments, T. of annu. were rendered unequal and irregular, it would be as easy, and much more safe, to apply the arbitrary method of correction to the monetary results themselves, than to introduce it at a previous stage of the process. It is not, however, a matter of much consequence as to the annu., etc., deduced from the T.; and as yet the rudeness of the orig. obs. renders the effect of any such alteration not so great as the prob. errors of the obs. themselves.

1840.—The next detailed description we find [see 1765 and 1815] of the application of the *Graphic* method to Graduation is that given by Mr. Edward Sang in his *Essays on Life Assu.*, pub. this year. He is describing the process he adopted in the case of an investigation of data, wherein the ages ran very much in quinquennial groups, as 50, 55, 60, and so on (see pp. 2 and 3):

Having drawn a number of equidistant parallel lines to represent the successive ages, I measured off on these, distances proportional to the number of deaths actually recorded, and then sketched a curve line through among the terminal points, so as to make (over arbitrary intervals) the sum of the distances on the other side of the line; and then, by help of that curve line, I corrected the number of deaths, leaving, of course, the total number in each arbitrary interval unchanged.

To this proceeding it may fairly be objected that many curve lines may be drawn, each possessing the definite character above mentioned; and that I can show no reason why this individual one ought to be preferred to any of the others. The recognized law of such corrections is, that the sum of the squares of these corrections ought to be the least possible. Has this law been attended to?

It would indeed be a matter of congratulation to scientific observers, could any definite method of correcting the obs. made in search of a new law be laid down. The method of minimum squares of M. Legendre is arbitrary; why not minimum biquadrates? The whole matter is open to investigation, and seizing the opportunity, I here propose to show that, when we are in search of a law, the nature of which is unknown to us, *there cannot exist any definite method of correction.*

1851.—Mr. Jellicoe, in his paper, *On the Rates of Prem. to be charged for Assurances on the Lives of Military Officers serving in Bengal*, read before the Inst. of Actuaries, this year [*Assu. Mag.* vol. i. p. 166], made the following observations on the graduation of Life T.:

I believe that almost all the writers who have adverted to the subject acknowledge the necessity, or at least the paramount convenience, of introducing a certain degree of regularity into Mort. T. greater than is usually exhibited by the facts as simply recorded. Mr. De Morgan, indeed, hints a dislike of the practice, and seems to advocate the correction of the monetary T. and other similar results rather than the adjustment of the Mort. T. in its first stage. Such a mode of proceeding, however, presents so many and such serious inconveniences that it is hardly likely to be adopted by practical people; and it seems the less to be called for, since the requisite uniformity may be given to the rude results without seriously distorting their proper features. *A more crying evil is the insufficiency which so often prevails with regard to the extent of the obs. themselves.* . . .

1854.—Mr. Jellicoe, in his paper, *On the Rates of Mort. prevailing amongst the Male and Female Lives assured in the Eagle Ins. Co. during the 44 Years ending 31 Dec. 1851*, said of his T. [*Assu. Mag.* vol. iv. p. 205]:

. . . Although approximating to the dimensions exhibited by the ordinary run of such T., it will be found to present irregularities too great to allow of its being properly made the basis of the calculations for which it is needed; and hence we have to seek for the means of moulding it into a due degree of uniformity (such as, were the numbers greater, it would prob. assume) *without materially changing its character, or depriving it of the peculiar features on which its identity depends.* Various methods have been proposed and adopted for this purpose: amongst other writers Mr. Finlaison, Mr. Edmonds, Mr. Davies, and Mr. Gompertz, have, with more or less success, taxed their learning and ingenuity on the subject. Mr. Farrer, in his able work on the *Chances of Premature Death*, has not only developed the principles on which the last-named eminent Actuary proceeds, but has deduced similar results from independent considerations; and has also shown with Mr. Farr, the application of the theory of differences to the same end.

He then proceeds to expound the method he had employed, which appears to have been a modification of Gompertz's Formula.

1856.—Mr. Griffith Davies, in his *Treatise on Annuities*, pub. this year, explains in considerable detail the methods he employed in the construction of the *Equitable T.* of Mort.—see pp. 191–204.

Mr. Sutton, in *Assu. Mag.* [vol. xx. p. 176], says, regarding Mr. Davies's mode of graduation:

It was found, however, on a close examination of the method in question, that in its practical application it requires to be dealt with more or less arbitrarily, . . . From the facts he had to deal with being in a peculiar form, Mr. Davies was obliged to have recourse to a very ingenious method of deducing the numbers living at certain ages, and then by a method of interpolation to obtain the numbers living at the intervening ages.

He then gives an example of the results which would have ensued from the application of the same method to the data for *Experience T.* No. 2.

1857.—Mr. Peter Gray contributed to the *Assu. Mag.* [vol. vii. p. 121] a paper: *On Mr. Gompertz's Method for the Adjustment of T. of Mort.*, wherein he points out that in nearly all the methods of adjustment theretofore employed, with the exception of Mr. Gompertz's, the object chiefly kept in view had been simply to secure *some sort* of regularity of progression in the series of prob. of living a year—doing, of course, as little violence as possible to the orig. results—this without reference to any *law* in accordance with which this progression *ought* to be regulated. Mr. Gompertz on the other hand set out with a principle, which his mode of adjustment followed throughout. It seems clear, however, that all the hypothetical methods must partake of the same defect—if defect it be—certainly of the same principle. He then enters upon a scientific analysis of Mr. Gompertz's method.

The introductory passages, having reference to the chief objects of graduation, we have already quoted under ADJUSTMENT OF T. OF MORT.

1861.—Messrs. Bailey and Day, in their able paper, *On the Rate of Mort. prevailing amongst the Families of the Peerage during the 19th Century*, read before the Inst. of Act. this year, say [*Assu. Mag.* vol. ix, p. 310]:

As was to have been expected, the col. of ann. mort. exhibits numerous irregularities, but we have purposely abstained from applying any method of graduation, indispensable as this process is for many applications of T. of Mort., and great as has been the ingenuity expended upon it, the process itself can only be regarded as a necessary evil; and without going so far as to say, with Prof. De Morgan, that "the practice cannot be too strongly condemned," the force of his remark that "the T. thereby lose some of their value as representations of physical facts" is undeniable. And as the process was neither necessary nor desirable for one of the chief objects of this investigation—the comparison of the results with those of other T.—we have preferred to leave the obs. unadjusted.

Mr. Berridge has since adjusted these T. See 1865.

1863-5.—Mr. Woolhouse read before the Inst. of Act. a paper: *On Interpolation, Summation, and the Adjustment of Numerical T.* This subject really extended over 3 parts, represented by three papers respectively [*Assu. Mag.* vol. xi. p. 61, and (part ii.) p. 301; vol. xii. (part iii.) p. 136]. The first two parts will be noticed under their respective titles. The third part contains the following:

In constructing and adjusting numerical T., more especially those drawn from statistics, the method commonly employed is simply that of taking as data only a few of the unadjusted tabular values, the same being distributed apart at certain assigned convenient intervals: and thence determining all the intermediate values by a suitable process of interpolation, so as to impart to the results a desirable graduated progression. Although expedient as regards facility of calculation, this practice is in other respects devoid of scientific principle. *The meagre data upon which everything is made to depend may indeed consist of values amongst those most in error, and under any circumstances an undue and exclusive presumption of accuracy is tacitly given to a few values arbitrarily chosen to the exclusion of all the others; and by using these values without any preliminary adjustment, the entire T. is necessarily and systematically vitiated by whatever imperfections they may happen to possess.* The real problem to be solved is to determine a method of constructing a properly graduated T. which shall represent the whole of a given series of values, or a given mass of original facts, with a greater degree of accuracy than that of any other T. of a similar kind. *A thorough investigation of the subject, thus considered, and taken in all its bearings, may be said to open out an entirely new branch of science; and in the discussion given to the present paper it will, I think, be admitted that some progress has been made towards its mathematical development.*

This may be read as indicating the *rationale* of the process he brought into practice in 1870; although we shall see some intermediate indication that the question was still under his active consideration.

1865.—Mr. G. W. Berridge read before the Inst. of Act. a paper: *On a Method of Graduation applied to the Peerage Mort. deduced by Mr. Bailey and Mr. Day, with Tables founded thereon.* This paper is pub. in the *Assu. Mag.* [vol. xii. p. 220]. Its treatment of the inquiry is mathematical. The orig. T. shows a decrease in the prob. of dying in a year from age 22 to age 34, and hence the process of graduation could not be accomplished by any of the hypothetical methods. Mr. Berridge considered that: "A climacteric extending over so many years, and defined by so large a proportion of the mort., is not to be disregarded; and that any graduation which should attempt to evade it would be fallacious." Another peculiarity of the T. was the rapid rate of the increase of mort. after age 80, which was also borne out by the original data. Hence he devised some special methods of graduating the Table without eliminating these characteristic features. [PEERAGE MORTALITY.]

1866.—Mr. Woolhouse read a paper before the Inst. of Act.: *On the Construction of T. of Mort.*, wherein occurs the following passage [*Assu. Mag.* vol. xiii. p. 98]:

Before concluding this paper it may not be out of place to make a few remarks on some of the

existing methods of eradicating the irregularities of tabular results. Perhaps the most prevalent assumption in these methods has been that of taking the arithmetical mean of a group of consecutive values, and adopting the result as the adjusted value which belongs to the middle of the group. The practical operation of taking averages has an undoubted tendency to neutralize errors of a purely incidental kind; but unless the process be sound also in theory, it must at the same time be attended by the introduction of errors in principle. It is here proposed to inquire into the amount of these latter errors, which admit of being accurately calculated from a series of differences.

This he proceeds to accomplish by an elaborate mathematical process. (See 1870.)

1870.—Mr. Woolhouse read before the Inst. of Actuaries a paper: *Explanation of a New Method of Adjusting Mort. T.: with some Obs. on Mr. Makeham's Modification of Mr. Gompertz's Theory* [Assu. Mag. vol. xv. p. 389]. The introductory passage is as follows:

All tabular numbers drawn directly from obs., especially those appertaining to statistics, are more or less affected by unavoidable imperfections, arising from defective information, insufficiency in the number of obs. recorded by the experience, and other known or unknown incidental causes. When a consecutive series of tabular numbers is taken and differenced up to a certain order, the existence of the imperfections or errors alluded to is at once revealed by the differences, which exhibit a conspicuous disturbance of their law of progression. To eradicate the errors and effect a proper adjustment of the original numbers is, however, an operation of peculiar and somewhat novel difficulty; and a critical examination of the empirical expedients, usually resorted to for such a purpose, will show that *instead of meeting the indispensable requirements of the problem, they only evade its most essential conditions, and thereby impregnate the results with a new series of theoretical errors, which too readily evade detection in consequence of the systematic uniformity of their law.*

His actual process, while prob. known to all our scientific readers, will be of interest to some others, if explained, as to its broad outlines, in a popular manner. The tabular values to be graduated are the numbers living at successive ages, as deduced from the orig. obs. Assuming the Table to commence at age 20, the numbers living at that age, and at the ages 25, 30, and so on quinquennially to the end of the T., are extracted. By a formula of interpolation the numbers for all the intervening ages are determined; this constitutes series A. The next age, 21, is taken, and all the quinquennial ages, as 26, 31, etc., are extracted. These treated as before constitute series B. Ages 22, 23, and 24, with their corresponding quinquennial numbers, are treated in like manner. Hence all the numbers of living become subjected to treatment in the five series A to E. We may let Mr. Woolhouse describe the remainder of the process in his own words:

As the progression of the values to be adjusted is disturbed and distorted by errors of obs. and other incidental imperfections, the 5 interpolated T. just described will slightly differ from each other throughout. Thus for any stated age, these T. supply 5 separate and independent values of the number living at that age—each of them drawn from the observed facts by a simple and direct process; and as these values are, in other words, five absolutely independent determinations of the same identical quantity, *by taking the average or arithmetical mean, the adjusted number living at the stated age is finally obtained.* We are thus legitimately conducted to the general result, that the adjusted Table will be the average, or arithmetical mean, of the 5 interpolated Tables before mentioned.

In further elucidation of this point, he has considered an hypothetical case, wherein an orig. series of tabular values do not need any adjustment: the successive numbers already conforming to a fixed and having a regular progression. "In this case, if we assume that about the immediate vicinity of each value, the fixed law may be practically represented by an algebraic function of the third degree, it is evident that the interpolated T. A, B, C, D, E, will each of them be merely a reproduction of the orig. T., and, as a matter of course, the average T. will be in perfect agreement with the same, so that no alteration—that is, no correction—whatever will result from the application of the method of adjustment." He adds:

And as the entire process, which it will be perceived is neither arbitrary nor empirical, *is purely a distributive operation*, it follows . . . that, unlike other methods of adjustment, it does not in any way interfere with the organic relations which exist amongst the true values, but operates exclusively upon the incidental imperfections, whether in excess or defect: that is to say, its efficacy is wholly directed towards the neutralization of the small positive and negative portions of the data which constitute the errors of observation.

He points out that the prob. errors of the interpolated values are "even somewhat less than those of the orig. obs.;" as also that in practice it is not requisite to compute the five interpolated series separately: "a labour which would be unnecessarily circuitous." The process is not deemed applicable to ages under 10. In this description of the process we have anticipated Mr. Woolhouse's paper of 1878 to some extent. We now return to the one immediately before us, and confine ourselves to an elucidation of the results which the author considered he had achieved by his method. He says (p. 394):

In the actual construction of the New Experience T., I have first made independent computations of the adjusted numbers living for every fifth year of age; and afterwards calculated the values throughout for every age, by adjusting the decrements: thence deducing by successive subtraction the numbers living, and making use of the former calculations at the end of each quinquennial interval, as a periodical check on the accuracy of the work. The final results, on being differenced to second differences, are generally found to be remarkable for their orderly progression, though at exceptional places there may yet exist some slight traces of irregularity; but they are quite isolated and so trivial as to be readily amended by inspection. Judging by my own experience, I have no doubt that the simplicity and efficiency of the manipulation will be favourably appreciated by those who may hereafter have occasion to put it in practice.

Finally, and most important (p. 395):

In the foregoing method of adjustment *every individual element of the data supplied by the*

experience has its proper influence in determining its several results, and there does not exist anything of an arbitrary nature in the process. No extraneous condition or restriction is placed upon the quantities, which are freely permitted to manifest and assert their own law. Hence, also, if there be any particular phases in the absolute law of mort., or any special peculiarities at certain periods of life, the same will be brought out with greater clearness in the final T. after the casual irregularities have been eliminated.

In investigating the results of individual offices, such a power of preserving the real features of the T. we regard as of great consequence. (See 1878.)

There occurred in the *Ins. Record* at the close of this year a controversy between Mr. Filipowski and Mr. Woolhouse on points connected with graduation.

1871.—In the Ann. Rep. of the Board of Regents of the Smithsonian Inst. of Washington, there was contained a paper by Erastus L. De Forest, M.A., of Watertown, Conn.: *On some Methods of Interpolation applicable to the Graduation of Irregular Series, such as T. of Mort., etc.* The same author has we believe pub. two other papers on the same subject, to which however we cannot give the references.

1873.—Mr. Samuel Brown, replying to a criticism of Mr. Wilfred A. Bowser, on the method he had adopted in graduating the mort. experience of the *Clergy Mut. Life* [CLERGY, MORT. T. FOR THE], says, *Assu. Mag.* [vol. xvii. p. 339]:

In regard to my rough method of graduation, I have found that for official purposes it makes a better T. for use than more scientific methods frequently do: as any one may discover who tries to use the new T. of the Inst. for short periods and survivorships. I have always regretted that Mr. Makeham's method was not adopted for these T., likely to be so extensively employed in office calculations. My plan follows the fluctuations of the orig. T. of Obs., and makes use of all the facts to obtain the averages. It merely assumes for the intervals, what nearly all Mort. T. seem to indicate, that under ordinary circumstances the rate of mort. increases or diminishes by geometrical progression.

1874.—Mr. Charles Ansell, Jun., in his *Statistics of Families*, etc., pub. this year, says (p. 20):

... With regard to what is the best mode of effecting the adjustment, or "graduation" as the process is sometimes termed, there have been diverse opinions: some authorities holding that it is essential to treat uniformly all the numbers in a T. in accordance with some given formula; while others have considered that as such formulæ are in themselves purely arbitrary, it is permissible, within certain limits, to deal with the numbers in any way which will produce the best practical result. It will, however, perhaps be safe to assume that the appropriateness of any particular method must, to some extent, depend both upon the special features of the T. and the uses to which the latter is to be applied.

He then adopts a modification of Woolhouse's system, wherein however only positive quantities are retained. By this mode of treatment, it has been contended that he has left out the very essence of the real process he assumes to have followed, vide *Assu. Mag.* vol. xxi. p. 50.

1875.—In the *Rep. of the Mortuary Experience of the Mutual Life Ins. Co. of N. Y. from 1843 to 1874*, by Wm. H. C. Bartlett, LL.D., the Actuary of the So., there is contained [part ii. p. 9] an account of the process employed in graduating the results. In the first instance Woolhouse's method was adopted,—in view of comparing the results with the *Experience T.* (No. 2); but a second process was afterwards employed: which is indorsed with entire approval by Prof. C. F. McCay. (See 1879.)

1877.—Mr. William Sutton read before the Inst. of Act. a paper: *A Comparison of various Methods of Graduation of a Mort. T. considered in reference to the Valuation of the Liability of an Average Life Office under its Assu. Contracts* [*Assu. Mag.* vol. xix. p. 170]. The objects in view by the author of the paper require to be understood, and we shall therefore state them in the words of the author, which are distinct and unmistakable: merely premising that he represents the importance of graduation in a new, and very practical light:

... In the following paper it is not proposed to open up any discussion on the general principles involved, nor is it proposed to go into any detail as to how far these general principles have been carried out in the various well-known methods of graduation. The purpose of the paper is of a somewhat different nature. Mort. T. have little if any value except for their application to those financial matters into which the duration of life enters as an important element; and it would, therefore, appear not to be an unreasonable notion to institute a comparison between various methods of graduation; not to ascertain to what extent they respectively conform to estab. mathematical principles, but to ascertain to what extent they respectively affect that most important question to all concerned in the bus. of Life Assu.—what amount an office should retain at its periodic valuation to meet the liability under its pol. This amount, as we all know, will vary considerably with the data employed: the said data being the rate of int. and graduated Mort. T. It is not, however, proposed in this paper to touch at all upon the comparative effect of employing various rates of int., nor is it intended to deal with the comparative effect of using various mort. experiences. The rate of int. is assumed to be the same throughout, as also the mort. experience on which the Mort. T. is based—the only variable element introduced being the method of adjustment of the mort. experience used.

He selected for the purposes of comparison four methods of Graduation, viz.

1. The method laid down by Mr. John Finlaison in his Rep. 1829.
2. The method adopted by Mr. Berridge for the graduation of the Peerage mort. See 1865.
3. The graduation by aid of Mr. Makeham's formula. [MAKEHAM'S FORMULA.]
4. The method devised by Mr. Woolhouse. See 1870.

He then applies these systems to the unadjusted results given by *Experience T.* No. 2, and places the resulting cols. in comparison with the adjusted results of *Experience T.* No. 1, and of the Carlisle T. We simply give a decennial abstract of his T. as follows:

Table Part 1. Numbers living at each age from 20 to end of life (abstract).

Age.	Experience T. No. 1. H.M. unadjusted.	2 Col. 1 adjusted by Mr. Woolhouse's method.	3 Col. 1 adjusted by Mr. Berridge's method.	4 Col. 1 adjusted by Mr. Finlaison's method.	5 Col. 1 adjusted by Mr. Makeham's method.	6 Experience T. No. 1. (17 Offices.)	7 Carlisle T.
20	100,000	100,000	100,000	100,000	100,000	100,000	100,000
30	93,467	93,392	93,465	93,448	93,124	92,521	92,644
40	85,518	85,514	85,517	85,550	85,438	84,349	83,333
50	75,652	75,591	75,649	75,539	75,563	74,535	72,200
60	61,337	61,177	61,335	60,990	61,045	60,012	59,819
70	39,443	39,620	39,449	39,275	39,448	38,424	39,425
80	14,476	14,477	14,482	14,141	14,693	14,249	15,649
90	1,563	1,517	1,235	1,443	1,404	1,414	2,332
97	...	9	...	8	...	14	296
98	...	...	...	...	...	4	230

T. Part 2. Annuity values at 3 p.c., resulting :

20	22'056	22'043	22'061	22'029	22'013	21'797	21'694
30	19'865	19'867	19'858	19'829	19'898	19'754	19'556
40	17'187	17'176	17'184	17'124	17'179	17'123	17'143
50	13'892	13'896	13'898	13'836	13'889	13'820	14'303
60	10'216	10'236	10'205	10'175	10'252	10'188	10'491
70	6'695	6'657	6'649	6'600	6'701	6'685	7'123
80	3'737	3'742	3'771	3'714	3'752	3'799	4'365
90	1'741	1'740	1'151	1'687	1'684	1'516	2'499
96	...	1'78	...	1'78	...	468	2'704
98	...	...	...	...	...	243	...

T. Part 3. Value of £1 payable at Death—3 p.c. int., resulting :

20	32847	32886	32832	32925	32972	33600	33901
30	39228	39221	39249	39333	39132	39552	40129
40	47029	47060	47037	47212	47052	47214	47156
50	56625	56613	56610	56787	56634	56836	55429
60	67333	67274	67365	67452	67227	67414	66531
70	77587	77700	77720	77865	77570	77617	76340
80	86203	86187	86103	86269	86159	86021	84374
90	92016	92020	93734	92173	92182	92673	89809
97	...	98087	...	97087	...	96005	89633
98	...	...	...	...	...	96382	...

T. Part 4. Ann. Prems. throughout life to insure £1—3 p.c. int., resulting :

20	01425	01427	01423	01430	01432	01473	01494
30	01880	01880	01881	01888	01872	01905	01952
40	02586	02589	02586	02605	02588	02605	02599
50	03802	03801	03800	03828	03803	03835	03622
60	06003	05987	06012	06036	05974	06025	05790
70	10083	10148	10160	10246	10072	10100	09398
80	18198	18174	18046	18300	18131	17924	17528
90	33571	33585	43752	34300	34344	36837	25669
96	...	81954	97087	81954	...	65219	25085
97	...	97087	...	97087	...	70014	...
98	...	...	...	...	...	77558	...

The first thing to be noted in part 2 is the remarkable closeness in the annu. values as given by the unadjusted results and Mr. Woolhouse's adjustment. Mr. Finlaison's method gives annu. values throughout smaller than the unadjusted—a point of importance to be kept in view, having regard to the purposes of his investigation.

Mr. Sutton gives a further T. showing the reserve p. 100 insured by each of the preceding methods,—a matter of considerable interest. This T. is not suited for quotation here.

The second part of the paper appears in the same vol. of the Jour., and is full of examples and illustrations of practical interest; some of which will be given under other heads.

Mr. James Sorley this year contributed to the *Assu. Mag.* [vol. xx. p. 340]: *Results of an Unsuccessful Attempt to Graduate a Mort. T. by Makeham's Method*, wherein, after detailing some of the steps he had taken, and pointing out the conclusions to which they

tended, he is led up to the inquiry—What should be the test of a satisfactory graduation? Which he proceeds to answer as follows:

It appears to me that if the adjusted prob. of dying in a year will, on being multiplied into the number exposed to risk, reproduce the actual deaths, this is the best evidence that the adjusted T. expresses the essential teaching of the data, and is far more satisfactory than the agreement of annu. values before and after graduation, which is the test adopted by Mr. Sutton [1877]. In truth, when the facts are somewhat irregular, especially when the numbers exposed to risk differ greatly and suddenly, the adjusted T. prob. *ought not* to give annu. values agreeing with the values before adjustment. On the other hand, a little consideration will show, that by whatever formula the graduation may be effected, if the test now advocated be insisted upon, we insure that due value is given to the *weight*, as well as to the indication of the obs. at each age.

In the *Ins. Monitor* of N. Y. (1877, p. 327) we learn from a well-written art. *The Mort. T. v. The naked Facts*, the following American view of the question:

... Until within a few years our only reliance has been on English T., and even the American standard now in use was, on account of the limited number of obs., necessarily modified to conform in a general way to the results of foreign experience. In all these T. a mort. curve, in which the percentage of deaths should sustain a regular relation to the ages, has been a fundamental and controlling conception.

The results of European experience do not seem to indicate that any serious violence is done to the facts by such an assumption during those ages ordinarily covered by ins. Investigations, however, that we have made at various times of American statistics . . . seem to indicate marked climatic periods—eddies, as it were, in the current of life, where the death forces, after being for a while pent up, had burst forth with fresh vigour. Such a period would seem to exist between 20 and 30, where more than one set of obs. has shown a heavier mort. than ten years before. It is of the highest importance that such periods, if they exist, should be carefully noted, *especially in view of the number of limited term pol. issued in this country*. Any system of graduation, no matter how perfect the mathematical law of its curvature, which would obliterate the natural sinuosities resulting from such periods, would have defects more fatal than those condemned by De Morgan; and we offer these suggestions in view of the efforts now making to secure a thorough and comprehensive American standard.

1878.—Mr. Woolhouse read before the Inst. of Actuaries a paper: *On the Adjustment of Mort. T.: a Sequel to Former Papers on the same Subject* [*Assu. Mag.* vol. xxi. p. 37], the opening para. of which refers to his method of adjustment already described under date 1870, which, he says, “was orig. by me expressly for the purpose of accomplishing the graduation of the Institute T. of Mort.” Speaking of the results as having proved very satisfactory, he continues:

Since that period I have had occasion to adjust various T. of Mort., and it is almost unnecessary to say with uniform success. Every reconsideration of the subject has only confirmed my settled conviction that, from all points of view, the theoretical basis of the method is the true one, and that it must eventually meet with universal acceptance. But although the general principles of the method, as far as I am able to judge, do not admit of any improvement, I have succeeded so completely in the practical reduction of the working process that, as regards conciseness and simplicity of computation, it is now all that can be desired. The entire process is trans. into a brief operation of the simplest kind, and so purely mechanical as to relieve the mind from all consideration. In my opinion simplicity can no farther go. *The improvement is so marked and decided, that I have been induced, in the present communication, to lay a statement of the particulars before the Inst.*

This he proceeds to do, after several further passages, which we have already anticipated under date 1870. After such elucidation, he continues (p. 45):

When the adjusted values are thus calculated for the several ages of the T., the results, on being differenced to second-differences, will test the value of the orig. data, and at the same time show the accuracy of the work by exhibiting an orderly progression throughout. It is possible, however, that at one or two exceptional places, there may yet remain one or two traces of irregularity; but they are sure to be quite isolated, and so trivial as to be readily amended by mere inspection. It may be further observed that the final T., as a correct representation of the average mort. of the class of lives under consideration, will be entitled to the fullest reliance when the corrections are small in proportion to the respective numbers. *This will invariably be the case throughout the T. when the experience is accurately recorded, and the materials are sufficiently ample.* It is almost needless to add that if, on the contrary, the computed corrections come out proportionately large, the fact will surely imply that the prob. errors of the data are considerable, that the orig. obs. are essentially defective, and that no results deduced from them alone can be trustworthy!

There is one supplementary matter which has always to be provided for. As the data required for determining an adjusted number living include the tabular values for 7 years preceding the age given, it follows that the necessary data will not be forthcoming for the first 7 years of the T. The adjusted numbers for those years will therefore be wanting. To effect a continuous junction with the results already determined, I have found it most expedient and consistent to supply the required numbers by means of constant third-differences. . . .

1879.—Prof. C. F. McCay contributed to the *Assu. Mag.* [vol. xxii. p. 24] a paper: *On the Adjustment of Mort. T. with reference to the Weight of the Obs.* This is an able, mathematically demonstrated, paper, which has deservedly attracted much attention from Actuaries on this side of the Atlantic. His criteria of a good adjustment are:—1. The general regularity in the rates. 2. The near agreement in the whole number of deaths. 3. The equality of the positive and negative deviations. 4. The smallness of the accumulated deviations. 5. The frequency in the changes in their signs from positive to negative. His remarks on the “equality of prob. errors” appear particularly german to the question.

It has to be noted that Mr. Sprague in his recent papers contributed to the *Assu. Mag.* has adopted the Graphic method of graduation—perhaps only on the ground of its being best suited to the particular inquiries in hand. [GRAPHIC METHOD.]

1880.—Messrs. Geo. King and Geo. F. Hardy read before the Inst. of Act. a paper: *Notes on the Practical Application of Mr. Makeham's Formula to the Graduation of Mort. T.* This paper will fall to be spoken of more especially under title MAKEHAM'S

FORMULA ; but in the mean time we may say that it is a conscientious effort to add to the solution of the many points of deep practical interest which are seen to underlie the question of GRADUATION. The number of the *Assu. Mag.* containing this paper is not yet pub. : hence we cannot give full reference to it.

This same year (1880) Mr. James Sorley read before the Inst. of Act. a paper : *Obs. on the Graduation of Mort. T. ; with Special Reference to the Conditions under which certain Methods are to be Preferred.* This is a very able contribution to this important subject ; and we gladly quote several passages from it by way of showing that the interest in the question is by no means exhausted. After referring to the fact that the subject had been recently brought prominently before the actuarial profession in connexion with the exposition of the various methods that had been proposed, the author says : "While the bases of these individual methods have been set forth in a way leaving nothing to be desired, the precise relation of each to the entire problem of the adjustment of prob. derived from statistics, does not appear to have been so clearly marked out ; and therefore, in the following observations, it is proposed to keep prominently in view the conditions under which one method is to be preferred to another."

Under the first division of "Graduation in general" he says :

The adjustment of Mort. T. framed from the records of actual observations may be held to be undertaken mainly for two reasons :—1. To correct errors in the records themselves—mis-statements, either wilful or clerical—and which may be called *Personal Errors*. 2. To smooth down such irregularities, arising from paucity of numbers, as we have good reason to believe should not be expected to recur were a similar class of lives again similarly exposed. These, for the want of a better name, may be called *Natural Errors*.

The working of the first influence is well illustrated in national V. Statis. ; and of the second in assured-life experience, where the first has little or no place. It may be observed as a rather important fact, that we seldom require to deal with Personal and Natural Errors at the same time. Thus, in the reports of the Reg.-Gen., there is no lack of numbers to form an average, but unfortunately these numbers are not trustworthy. Besides accidental errors, which will probably neutralize each other, there are serious mis-statements influencing the enumerations in particular directions, which are known of beforehand as certain to occur, and which therefore require to be dealt with before a satisfactory table can be framed. To such—as, for instance, the recording of ages in decades instead of exactly—the mathematical Law of Error does not apply. Before that law becomes applicable, it is necessary that allowance be made for all *known* disturbing causes, as it relates solely to residual errors.

Against some correction of Personal Errors, however, no reasonable objection can be brought. The opinion of De Morgan, quoted above, is favourable rather than otherwise, for the correction is applied with the view of getting the exact physical facts—not of altering them. And as regards the other instance, that of assured-life statistics, we submit that De Morgan's words do not, when fairly interpreted, tell against scientific adjustment. It should not be overlooked that they were written in 1838, when the theory was still in its infancy, and before any of the methods I have alluded to had been developed ; and they clearly refer to arbitrary and unscientific graduations, than which he probably then knew no other. Coupling this with his admission that the fluctuations of single years are "errors," we surely get a legitimate warrant for eliminating them, if that can possibly be done. This being granted, the controversy can only be conducted on the more restricted ground—*Whether the process of graduation generates more errors than it expels ? In other words, opponents of graduation may fairly demand a reason for believing that the graduated results correspond better with the law of life than the unadjusted facts.*

Now the process of graduation is simply the alteration of the expression for the law of mort. of the community observed, from an irregular rectilinear figure to a curve—a line, it may be, presenting frequent flexures, but no angles. For this alteration two good reasons may be given—First, the principle of Continuity, founded upon the reign of Law existing throughout all nature—expressed in the maxim, *Natura non agit per saltum*—teaching the inherent improb. that sudden fluctuations up and down in the death-rate as we pass from age to age are likely to recur at corresponding ages, were a similar body of lives again observed. Second, Experience, derived from inspection of other obs. in which we find that like fluctuations do not exist, or possibly that the deviations from the average or curve line are in opposite directions ; and which has also clearly estab. the fact, that as numbers are increased, irregularities are in large measure diminished. Hence Experience, applied, of course, with judgment, is a most important factor, enabling us, for instance, to avoid eliminating as accidental deviations any well-established physical fact, such as the maximum point in the curve of the probability of dying, demonstrated by Mr. Bailey as occurring in the period of early manhood.

It should be particularly noticed that the mere theory of graduation involves no assumption as to what the law of life is ; it simply takes for granted that life, like everything else, is under law ; that the action of Nature is, on the whole, regular and harmonious, not erratic and fickle ;

"So careful of the type she seems,
So careless of the single life."

So long as these modest limits are not exceeded, graduation may be successfully defended. But to justify it upon the ground, not of the orderly character of results, but of some definite theory as to their causes—or, in other words, to assign the forces of mort., of whose secret springs we know so little, and thence to graduate by a formula in which the number living is expressed as a definite function of the age, is a generalization far transcending the present, and, in the opinion of those most capable of judging, the possible, attainments of science. Any such formula must always be purely empirical, and can have no claim on our acceptance when it would give results differing to any extent from those of an adjustment made independently of its assumptions.

Other portions of Mr. Sorley's paper will be dealt with under their appropriate titles.

[ADJUSTMENT OF MORT. T.] [DE MOIVRE'S HYPOTHESIS.] [GOMPERTZ'S HYPOTHESIS.] [GRAPHIC METHODS AS APPLIED TO LIFE CONTINGENCIES.] [HYPOTHETICAL LAWS OF MORT.] [INTERPOLATION.] [MAKEHAM'S FORMULA.] [MORT. T., CONSTRUCTION OF.] [WOLHOUSE'S FORMULA.]

GRAHAM, (MAJOR) GEORGE.—Held the important position of Reg.-Gen. in England from the year 1842 down to 1879. He succeeded Mr. Lister ; and performed good service to the country during his long term of office.

GRAHAME, JAMES.—Pub. : 1. *An Inquiry into the Principle of Pop.*, 1816. Mr. Malthus

replied to it in his Appendix under date 1817. [POP.] 2. *A Defence of the Usury Laws against the Arguments of Mr. Bentham and the Edin. Reviewers.* Edinburgh, 1817. [USURY.]

GRAHAME, JAMES.—Accountant, Glasgow. Pub. 1869: *Popular Survey of the Life Ins. Statistics of the Year 1868, with a Chap. upon the Capital of Proprietary Cos.*, wherein is contained some T. which were of interest at the time. The first ed. was called in, by reason of some errors in these T., and a new and corrected ed. issued with prefatory "note."

GRAIN CARGOES.—The question of Grain Cargoes has engaged considerable attention from Marine Underwriters for some years past; but more especially since the winter of 1872, when so many grain-carrying vessels were lost in the Atlantic. The practice of carrying grain in bulk was found particularly destructive alike of life and property.

1874.—The Committee at Lloyd's printed and distributed an able pamphlet on this question.

1875.—Sir Charles Adderley obtained a return to the House of Commons showing the number of British ships carrying grain reported to the Board of Trade as totally lost, with the tonnage and number of lives lost, etc., during the 4½ years ending the 30th June, 1875. There were 3 tables in the document. In this period the number of vessels in the grain trade reported to the Board as totally lost was 250: the tonnage 84,911; lives lost, 1006. Other vessels, with seeds and mixed cargoes, were given, making a total of 415 vessels, of 158,359 tons, and the number of lives lost, 2149. The total quantities of wheat, barley, oats, and maize imported into the United Kingdom were, in the five corresponding years, as follows:—In 1871, 75,698,024 cwt.; in 1872, 93,244,287 cwt.; in 1873, 83,835,294 cwt.; in 1874, 81,944,427 cwt.; and in 1875, 95,800,361 cwt. In some later years the quantity has largely increased.

1876.—The Merchant Shipping Act—39 & 40 Vict. c. 80—provides (sec. 22) that where a British ship has on board a cargo of which more than a third consists of any kind of grain, corn, rice, paddy, pulse, seeds, nuts, or nut-kernels, that such extra portion of the cargo be put in bags, sacks, or barrels, or secured from shifting "by means of boards, bulkheads, or otherwise." In practice this regulation has not been found sufficiently stringent; and Mr. Plimsoll is seeking to obtain further legis. upon the point.

1878-9.—During the winters of these years the losses of this class were very heavy on American vessels. Many underwriters on either side of the Atlantic ceased to write them at any prem.

GRANARY RISKS.—These fall under the rating of the Fire Offices Committee. The rate under the London Mercantile Tariff in 1877 was 3s. 6d. After the fire at the King and Queen Wharf of this year it was increased to 5s. The important legal decision which followed upon this loss has been referred to in some detail under GOODS IN TRUST, etc.; and in the same art. will be found reference to other points affecting granary risks.

GRAND CLIMACTERIC.—The age 81—the multiple of the mystic 9, by 9. See CLIMACTERIC.

GRAND CONTRIBUTION OFFICE.—This office was opened in 1711, in Crane Court, Fleet Street, for the purpose of ins. Apprentices, etc., after the original method; but that class of bus. having been prohibited, it next took up Life Ins. [LIFE INS., HIST. OF.]

GRAND MASTERS OF THE TEUTONIC ORDER.—These were Knights who assumed control of the commerce of large portions of Northern Europe soon after the termination of the First Crusade, viz. late in the 11th or early in the 12th century. They took a prominent part in the estab. of the Hanseatic League, of which the Masters of this Order were for several centuries the head.

GRAND NATIONAL OPERA [TONTINE] CO., LIM.—Founded in 1880 for the purpose of completing the Grand Opera House on the Thames Embankment. The cap. of £160,000, in 1600 shares of £100, was to be raised by means of a Tontine on *male lives*, not younger than 60. The income (estimated at £8000 p.a.) to be annually paid to the survivors; and all the property of the Co. to vest in the last survivor. [TONTINES.] The scheme did not float.

GRAND OFFICE OF INS., CRANE COURT, FLEET STREET.—Founded in 1711, for carrying on Apprenticeship, Birth, Clerks, and Marriage Ins.

GRAND ORDER OF ENGLAND LIFE AND FIRE.—This high-flown project was set on foot in 1854. It did not get beyond regis. of title.

GRAND ORDER OF ENGLAND PROVIDENT SO. AND LOCAL AND GENERAL ASSU. SO.—Projected prob. about 1855, with a proposed cap. of £50,000, in shares of £1 each (with power to increase to £100,000), in view of offering the facilities afforded by Friendly Sos., yet of placing the operations upon a more certain foundation. The following para. from the prov. prosp. shows that its scope was ambitious:

This Grand Order will, under the privileges and securities of Act of Parl., include great advantages, and present a system whereby members may embrace a scale of payments according to their means, so as to enrol from 12s. to £2 and upwards per week in sickness; from £5 to £5000 at death; or endow to widows, orphans, or aged parents. Under the powers of a first-class Assu. Co. all the general bus. of assu. will be conducted, and the commission from the Co. will pay the greater part of the working expenses of the Benefit So.—an advantage of very great importance.

The Manager of the proposed scheme was Mr. Edward Wryall, F.R.S.; the Sec. Mr. C. Birch Crisp.

GRAND PROVISION FOR WIDOWERS, WIDOWS, ORPHANS, NOMINEES, ETC.—Founded at Bratton Fleming (Devon) in 1868, and enrolled under the Friendly Sos. Acts.

GRAND ROUTIER DE LA MER.—A work composed by Garcie de Ferrande, first printed in 1542, and from which Cleirac drew his version of *Us et Coutumes de la Mer.* [SEA LAWS.]

GRAND SUBSTANTIAL CO.—"At the Haunch of Venison and Two Neats Tongues next St. Magnus Church, London Bridge." An Office opened in 1712 as a "Little Go" of Ins. See GAMBLING INS., this date.

GRAND SUBSTANTIAL OFFICE.—At Blue Ball, Clement's Lane; founded in 1711, for the business of Birth Ins. "The Useful Intelligencer for promoting Trade" of Tuesday, Jan. 11, 1712, contained the following:

From the Grand Substantial Office at the Blew Ball in Clements Lane, etc. Observe the Books are now open, and Subscriptions are continued to be taken with extraordinary success; there are about 20,000 entries now actually upon the Books, and daily increasing to the satisfaction of all persons concern'd, where every Subscriber may at their entrance be ascertained of their advantage or the time of receiving.

On Monday next will be paid off only on the One Shilling Book (belonging to the old 15 Shilling Book) to No. 400, on the new set to No. 175, on the 10s. to No. 175. And on Tuesday on the Births and all Claims (except Re-entries) made before the 24th of Nov. on the old Birth Book. *Note*—Blank Lottery Tickets will be discounted as Money in this office.

The scheme was one of those soon after suppressed.

GRANDJEAN MONS. T.—Pub. in Paris, 1876: *Memoire sur la Decroissance de la Population Francaise.* [FRANCE.]

GRANT.—In Legal language, a common-law conveyance, operating by transmutation of possession. This has now become the usual mode of transferring realty, which is technically known as a *grant to uses*.

GRANT, GEORGE.—Was for some years Sup. of Agents of the *Star Life*, from which position he retired in 1853, and died soon afterwards.

GRANT, GEORGE.—Was Sec. of Lond. branch of *Scottish Provident* for some years, down to 1858.

GRANT, JAMES.—Was Sec. of *Morayshire Ins. Co.* from 1851 down to 1855.

GRANT, JAMES.—Sec. of the Canadian branch of the *Reliance Mutual* since 1869. Was formerly Sec. of the Dublin branch of the *Edinburgh*; and afterwards Sec. of *Life Asso. of Scotland* in Montreal.

GRANT, MAURICE.—Pub. in 1870: *The People's Guide to Life Ins.* We believe the author was before, and has since been largely engaged in finance operations.

GRANT, THOMAS MUIR.—Sec. of *Norwich Union Life* since 1875. He has had a varied and valuable experience, commencing with a clerkship in the *Phoenix Fire* in 1848. He entered the *National Mercantile* in 1851. In 1855 he became Chief Accountant in London Office of *L. L. and G.* In 1860 he became Sec. in Madras for *Medical Invalid*; in 1863 he was Sec. in Dublin for *Life Asso. of Scot.* In 1868 he became manager for *Ins. Co. of Scot.*, and in 1871 Sec. of West of Scotland branch of *S. Widows*; from whence to his present appointment. On the occasion of his leaving Glasgow he was entertained at a banquet by his brother Ins. Managers of that city. A similar compliment was also paid him in 1868, on the occasion of his leaving Dublin.

GRANT, WILLIAM.—Actuary, pub. in Madras, 1855: *Rep. on the Madras Apothecaries' Fund, with a Valuation of its Assets and Liabilities on 30th April, 1853.* [INDIA.] [WIDOWS FUNDS.]

GRANULATION (from the Latin, a grain).—A process by which minute, grain-like, fleshy bodies are formed on the surface of wounds or ulcers during their healing. In *Chemistry*, the term denotes the division of metals into granular particles.

GRANVILLE, DR. AUGUSTUS BOZZI.—A distinguished physician in practice in Lond. in the early part of the present century. In 1819 he pub. a *Letter on the Plague and Contagion with Reference to the Quarantine Laws.*

In 1825 he gave evidence before a Select Parl. Committee on Friendly Sos.; and again in 1827. At that date he informed the Committee that he was preparing for the Royal So. a paper to be entitled "Facts connected with the Reproduction and Preservation of the Human Species among the Labouring Classes of the Metropolis." He stated that he found from extended obs. that women were most prolific at age 30. The statistics which he compiled regarding 876 cases of parturition he had attended at the Benevolent Lying-in Inst., and the Westminster Dispensary, have been used by Sadler and other writers upon pop. [MARRIAGE.]

GRAPHIC METHOD OF GRADUATION.—Under title GRADUATION OF MORT. T. we have made reference to several instances of the Graphic Method being employed for the purpose. See 1765, 1815, and 1840.

It is generally believed to have been Sir J. F. W. Herschel who (about 1832) brought the Graphical method of graduation into prominent use in scientific investigations. Mr. Sorley's paper, read before the Inst. of Act. April, 1880 [and which we assume will in due course appear in vol. xxii. of *Assu. Mag.*], contains much interesting information on this and other incidental points. We take the following passage from it as bearing particularly on the subject before us:

Several recent graduations by Mr. Sprague, in which a graphical process is employed with singular success in unusually trying circumstances, suggest the suspicion that a most powerful instrument has

been, to a considerable extent, neglected by actuaries. A like indifference does not, however, appear to have obtained in other branches of science. Professor Stanley Jevons, in his *Principles of Science*, a treatise devoted to an exposition of the methods of scientific investigation, has a small section entitled "The Graphical Method," and in it the elements of the process are clearly set forth. The fact of such a system of adjusting the raw results of observations having already vindicated for itself a well-recognized position elsewhere, will be considered by actuaries as a good *primâ facie* ground on which to base a claim for increased attention at their hands; all the more, when some of its most successful applications are found to have been made under conditions similar to those occurring in the graduation of Mort. T.

Besides the exhibiting of numerical results in an easily intelligible form, there are two distinct purposes for which a graphical projection may be employed:—1. To obtain intermediate values of a function, when the values at fixed intervals only have been determined. 2. To generalize the results of observation or experiment, so as to eliminate their imperfections, and, if possible, obtain from them a mathematical expression of the law connecting the two variables that the diagram has been constructed to represent. In the former case, all points already marked on the chart remain unaltered, and the process, being thus simply one of ordinary interpolation, is fully as familiar to actuaries as to physical investigators; although actuaries may generally prefer to use some formula in the calculus of finite differences.

Mr. Sorley, writing of the Graphic method of graduation in the *Ins. Record* (5th Dec. 1879), said, "So far as I know, and am capable of judging, there is no other process of adjustment which, with so small an expenditure of time and labour, will give results equally satisfactory and trustworthy."

GRAPHIC NOTATION.—In 1869, when the subject of notation was occupying the consideration of the Institute of Actuaries, Mr. F. Allan Curtis submitted a scheme of *Graphic Notation*, applicable to the computation of Life Contingencies, of which the then President of that body spoke in terms of commendation. [NOTATION, MATHEMATICAL.]

GRASMEIER, HERR G. L. W.—Pub. in Hamburg, 1809: *Materialien zu einem allgemeinen Plan für die Assekuradeurs in Hamburg.*

GRASSES.—See VEGETABLE FIBRE AND GRASSES.

GRASWINCKEL, HERR T.—A Dutch writer, pub. at the Hague, in 1652, a treatise: *Maris liberi vindiciæ adversus P. B. Burgum, ligustiti maris dominii assertorem.* [HOLLAND.] [SEA LAWS.]

GRATUITOUS DEEDS.—Instruments made without binding consideration.

GRAUNT, JOHN, F.R.S.—Haberdasher, "Son of a Tradesman in Birch Lane," and a Captain in the City Train-bands. Pub. in 1661: *Natural and Political Observations mentioned in the following Index, and made upon the Bills of Mort. chiefly with Reference to the Government, Religion, Trade, Growth, Air, Diseases, and the several Changes of the said City.* This book attracted considerable attention at the time of pub., as it has done subsequently. A 2nd ed. was pub. in 1662; a third in 1665, under the direct patronage of the Royal So. The imprint of this ed. is: "Lond. printed by John Martyn, and James Allestry, printers to the Royal So., and are to be sold at the sign of the Bell in St. Paul's Churchyard." The 4th ed. was printed at Oxford same year; 5th ed., 16—; 6th ed., 1676; an ed. by Sir Wm. Petty, in 1678; and another by Dr. Birch, D.D., in 1759.

Besides the London Bills, he gave one for a Country parish in Hampshire in the first ed. of his book; and in an appendix to the later editions two others, one for Tiverton, the other for Cranbrook in Kent, with a few obs. on Foreign Bills. He almost always (says Milne) reasons justly from his *data*; but as these were very imperfect, in his endeavours to draw more information from them than they could supply, he has sometimes fallen into error. Mr. Milne adds:

Graunt's Obs., like all others of a similar kind, by showing the usefulness of Parish Regis. and B. of Mort., contributed to form a taste for these inquiries amongst thinking men; and consequently to improve both the Regis. and the B. derived from them; so that from his time the subject has been continually cultivated more and more.—*Ency. Brit.*

Graunt was careful to pub. with his deductions, the actual returns from which they were obtained, comparing himself, when so doing, to "a silly school-boy coming to say his lesson to the world (that peevish and tetchie master), who brings a bundle of rods, wherewith to be whipped for every mistake he has committed." Many subsequent writers have betrayed more fear of the punishment they might be liable to on making similar disclosures, and have kept entirely out of sight the sources of their conclusions. The immunity they have thus purchased from contradiction could not be obtained but at the expense of confidence in their results.—*Lubbock and Drinkwater* (p. 44).

Mr. E. J. Farren, (*Life Contingencies*, p. 17) says:

The circumstance of the plague occurring during the earlier years of Graunt's pub. may, in part, account for the rather extraordinary demand for the work—probably as a matter of curiosity as to the B. of Mort. it contained—for the Great Fire of Lond. happening in 1666, the year following the 4th ed., and by extensive devastation rendering the city less crowded with buildings, the plague finally disappeared, and ten years elapsed before a new ed. of Graunt's Treatise was called for.

Charles II. recommended the Royal So. to elect Graunt one of its members, charging the Fellows of the So., "that if they found any more such Tradesmen, they should admit them all;" and Graunt attributed the absence of the Plague during the year 1660 to the circumstances of the restoration of his Royal Patron!

Yet, notwithstanding all this, some doubts have been raised as to whether Graunt really was the author of this work at all—whether in fact the real author were not Sir Wm. Petty. We have taken some pains to investigate this charge, and have come to the conclusion

that it is founded in error. The misconception probably arose in the circumstance that Sir Wm. Petty—who was a relative of Graunt's—often spoke of the ed. which he edited after Graunt's death as his own.

Then again Bishop Burnet, in his *Hist. of his Own Times*, casually alludes to Sir Wm. Petty as the real author, and so fans the flame of doubt. Evelyn and Halley both supported the side of Sir Wm. Petty, as Mr. Hodge, F.I.A., has done at a later date (vide *Assu. Mag.* vol. viii. p. 234). Anthony Wood says the observations were done upon certain hints and advice of Sir Wm. Petty.

In support of the absolute authorship by Graunt there is the following testimony: Dr. Sprat, the historian of the Royal So., and also a contemporary, ascribes, without hesitation or qualification of any kind, the work to Graunt. Sir Wm. Petty, in a letter to his intimate friend Sir Wm. Southwell, five years after Graunt's death, and when he had no motive for disguise or concealment (if he ever had any), refers to the work as Graunt's, without any insinuation direct or indirect respecting its paternity. McCulloch (referring to the authorities on the other side) says: "Notwithstanding the deference due to their authority, it may be doubted whether there be any good ground for this statement." To which we devoutly say, Amen.

While the book remained so popular, its author fell speedily into disgrace. Graunt was a Roman Catholic, and also a Director of the New River Co.; and he was accused of having, in his latter capacity, intercepted the supply of water during the Great Fire of Lond.—his religious views leading him to support the conspiracy, in which so many persons, who might have known better, then believed. He survived the foolish charge, although through it, as Mr. Hodge has pointed out, his name has become associated with both life and fire ins. He was further charged with not having returned some of the early Bills of Mort. lent to him by the Company of Parish Clerks for the purpose of preparing his book.

There is also ascribed to Graunt: *Reflections on the Bills of Mort. relative to the Plague*, 1665. And it is further said he left some MS. writings.

In view of some of the preceding statements we think it well to add the entire passage from Burnet's *Hist. of his Own Times*, wherein, writing of the Fire of 1666, and the incidents associated with it,—more particularly in regard to its having been designedly occasioned by the Papists,—he says (ed. 1850, p. 156):

There was one Grant, a papist, under whose name Sir Wm. Petty pub. his *Obs. on the B. of Mort.*: he had some time before applied himself to Lloyd, who had great credit with the Countess of Clarendon; and said he could raise that estate [the New River Co.] considerably if she would make him a trustee for her. His schemes were probable: and he was made one of the board that governed that matter: and by that he had a right to come as often as he pleased to view their works at Islington. He went thither the Saturday before the fire broke out, and called for the key of the place where the heads of the pipes were, and turned all the cocks that were then open, and stopped the water, and went away, and carried the keys with him. So when the fire broke out next morning, they opened the pipes in the streets to find water, but there was none. And some hours were lost in sending to Islington, where the door was to be broken open and the cocks turned. And it was long before the water got to Lond. Grant indeed denied that he had turned the cocks. But the officer of the works affirmed that he had, according to order, set them all running, and that no person had got the keys from him besides Grant; who confessed he had carried away the keys, but pretended he did it without design.

Graunt died in 1674.

GRAUNT'S MORTALITY T.—The preceding Captain John Graunt, in his *Natural and Political Obs.*, 1661, 3rd ed. 1665, from which we here quote, gave "A Table shewing of 100 quick conceptions how many die within 6 years, how many the next decade, and so for every decade till 76;" and he says in explanation of it:

9. Whereas we have found that of 100 quick conceptions about 36 of them die before they be 6 years old, and that perhaps but 1 surviveth 76; we having 7 decads between 6 and 76, we sought 6 mean proportional numbers between 64, the remainder, living at 6 years, and the one which survives 76, and find that the numbers following are practically near enough to the truth; for men do not die in exact proportions, nor in fractions, whence arises this T. following:

Viz. of an hundred there dies within the			The fourth <i>decad</i> 6		
first 6 years	36		The next	4	
The next 10 years or <i>decad</i>	24		The next	3	
The second <i>decad</i>	15		The next	2	
The third <i>decad</i>	9		The next	1	
10. From whence it follows that of the			At 46 years end 10		
said 100 concerned, there remain alive at			At 56 "	6	
6 years end	64		At 66 "	3	
At 16 years end	40		At 76 "	1	
At 26 "	25		At 80 "	0	
At 36 "	16				

Now, in these figures we find the first semblance to a Mort. T. of which we have any knowledge. We arrange them into cols. as follows:

Age.	Living.	Dying.	Age.	Living.	Dying.	Age.	Living.	Dying.
0—	100	34	27—	25	9	57—	6	3
7—	64	24	37—	16	6	67—	3	2
17—	40	15	47—	10	4	77—	1	1

Mr. (afterwards Sir) J. W. Lubbock, in his paper on *Annuities*, etc., read before the Cambridge Philosophical So. in 1828, says :

Capt. John Graunt was the first, if I am not mistaken, who directed attention to questions connected with the duration of life. He pub. a book in 1661, . . . which contains many interesting details, although it is written in the quaint style which prevailed in those times. In this book, amongst other T., there is one showing in 229,250 deaths how each arose; and another showing of 100 births "how many die within 6 years, how many the next decade, and so for every decade till 76"—which is in fact a T. of Mort., and is prob. the first ever pub.

It seems prob. that the preceding T. may have been actually used in connexion with a Tontine scheme of 1683—vide *Assu. Mag.* vol. x. p. 207. [TONTINES.]

GRAVEL.—Crystalline sediments deposited in the bladder from the urine. These sediments are either amorphous and pulverent, or they are crystallized, their component elements varying with these conditions. [CALCULUS.]

GRAVEL, DEATHS FROM (Class, LOCAL ; Order, *Diseases of Urinary Organs*).—The deaths from this cause in England are not numerous. In 1865 they were 34 : males 30, females 4. In 1866 they were 27, all males. In 1867 19 : males 18, females 1. In 1877 the deaths immediately attributed to this cause were 11, viz. 7 males and 4 females. But Dr. Farr seems disposed to class all such deaths under *Calculus*. He says : "To Calculus and Gravel 245 deaths were directly ascribed—206 were males, 39 were females." The deaths nearly all take place after 40.

GRAVEL-ROOT.—The name given by the Germans to the *Pareira brava* root, from its beneficial effects in cases of stone and gravel.

GRAVESAUDE, GULIELMUS J. 's.—An eminent Dutch physican and philosopher. He pub. many important treatises in the early part of the last century—one of the most widely known being *Physicos Elementa Mathematica*, trans. into English under the title of *An Introduction to the Newtonian Philosophy*, etc. This work has passed through many eds. under varying titles. His whole Mathematical and Philosophical works (except Newtonian Phil.) were collected and pub., with a critical account of his life and writings, by Prof. Allomand, Amst. 1774, 2 vols. 4to.

GRAVESEND (KENT).—This town has suffered severely from fires. In 1727 it was reported as burned down. On 11th Aug. 1850, it suffered again severely. See FIRES, GREAT.

GRAVESTONES.—In periods preceding efficient regis. of deaths on paper, they were frequently engraved on stone, by way of inscription, on monuments, etc.—a very uncertain method at the best : for stone is very variable in its duration. Sir Thomas Brown (*Urn Burial*) puts down the time a gravestone lasts as 40 years; but much depends upon location. Inscriptions on tombstones have not unfrequently been called in aid of inquiries into the duration of life. [GOV. ANNUITANTS, 1834.] [LONGEVITY.] [MORT. OBS.] [REGISTRATION.] [RURAL MORT. T.]

GRAVINA, JOHN VINCENT.—An illustrious Italian lawyer and scholar. He pub. in Rome in 1696 a collection of pieces under the name of *Opuscula*. In 1701 the first of three books : *De Ortu et Progressu Juris Civis*. These and some of his other writings are quoted by us in this work.

GRAY, SMITH, AND ORCHARD'S T.—These were pub. in 1852 under the title of *Assu. and Annu. T. according to the Carlisle Rate of Mort. at 3 p.c.* See the respective authors.

GRAY, GEORGE.—Sec. of *City of Glasgow Life* (head office) since 1860 ; he had been trained to the bus. in the same Co., which he entered in 1845, after previously having had the benefit of a legal education.

GRAY, JAMES.—Was Man. of *General Maritime Ins. Co.* in 1845.

GRAY, JOHN.—Was Sec. of *General Expenditure Assu. Co.* in 1874.

GRAY, PETER.—Mathematician and computer, who has contributed largely to the improvement of the science of Life Contingencies. He is the author of the works and papers named below. In 1874 he accepted the position of Consulting Actuary to the *Railway Accident Mut. Assu. So.*

1842.—In the *Mechanics Mag.* a paper : On the *Construction and Use of Commutation T. for calculating the Values of Benefits depending on Life Contingencies*. [Reprinted in vol. x. of *Assu. Mag.*] This is a most valuable paper, on a subject requiring to be brought within the range of the actuarial student. We have spoken of it under COLUMNAR METHOD.

1843.—*Commutation T. for calculating the Values of Benefits depending on a Single Male Life*. 8vo. "not printed for sale."

1849.—*T. and Formulae for the Computation of Life Contin. ; with Copious Examples of Annuity, Assu., and Friendly So. Calculations*.

A scientific discussion of, and course of instruction in, the method of computing commutation columns, constitute the high merit of this treatise. It includes a set of improved tables of Gauss's celebrated logarithms of the sums and differences of numbers whose logarithms are known, extended to seven decimals. In 1870 a second issue was pub., with an addendum comprising a large extension of the principal Table.

1850.—Mr. Gray read before the Inst. of Actuaries this year a paper : *Remarks on a Problem in Life Contingencies*. This was a separate pub. at the time ; and has only found a place in the *Assu. Mag.* as recently as 1878 [vol. xxi. p. 67].

1851.—Mr. Peter Gray, Mr. H. A. Smith, and Mr. W. Orchard, pub. jointly: *Assurance and Annuity T., according to the Carlisle Rate of Mort.*, at 3 p.c.

The present value of annuities, and single and ann. prems. for one life, with single and annual prems. for survivorship assu. on every combination of two lives, make up the contents of this vol.

Same year, paper before Inst. of Actuaries: *On the True Measure of the Prob. of Survivorship between Two Lives* [Assu. Mag. vol. i. p. 137], also separately pub. 1852.

1852.—Contributed to Assu. Mag. [vol. ii. p. 1] a paper: *On the Doctrine of Successive Lives*.

Same year, paper before Inst. of Actuaries: *On the Construction of Survivorship Assu. T.* [Assu. Mag. vol. v. p. 107], and pub. separately.

1856.—Paper before Inst. of Actuaries: *On the T. of Single and Ann. Assu. Prems. pub. by the late Mr. Wm. Orchard, and on a Theoretical T. of Mort. proposed by him* [Assu. Mag. vol. vi. p. 181].

1857.—Contributed to the Assu. Mag. [vol. vii. p. 121] a paper: *On Mr. Gompertz's Method for the Adjustment of T. of Mort.* [GOMPERTZ'S HYPOTHESIS.]

1863.—Letter to Assu. Mag. [vol. xi. p. 172]: *On the Component Parts of a Terminable Annu.*

1864.—Letter to Assu. Mag. [vol. xi. p. 230]: *On the Facilities Afforded by certain Logarithmic T.*

Same year, paper *On a Table for the Formation of Logarithms and Anti-Logarithms in 12 Places*, Part I. [Assu. Mag. vol. xii. p. 71].

Same year, letter *On Mr. Makeham's Modification of Mr. Gompertz's Theory of the Law of Mort.* [Assu. Mag. vol. xi. p. 236].

1865.—Second paper on *Formation of Logarithms*, etc., Part II. [ibid. p. 121].

Same year, third paper on same subject, Part III. [ibid. p. 212].

Same year, fourth paper on same subject, Part IV. [ibid. p. 252].

Same year, *T. for the Formation of Logarithms and Anti-Logarithms to 12 Places*, with *Explanatory Intro.*, 1 vol. (See 1876.)

1866.—Letter to Assu. Mag. [vol. xiii. p. 104]: *On the Value of Options in certain Contracts*.

Same year, *On the Construction of Tables by the Method of Differences* [Assu. Mag. vol. xiii. p. 61].

Same year, Part II. same subject [ibid. p. 149].

1867.—Part III. same subject [ibid. p. 293].

Same year, letter to Assu. Mag. [vol. xiv. p. 63]: *An Assu. Fallacy*.

1868.—*On the Rate of Int. in Loans Repayable by Instalments* [Assu. Mag. vol. xiv. pp. 91, 182, 307].

Same year, *Further Consideration on M. Violeine's Solution of a Problem on the Rate of Int. in Loans Repayable by Instalments* [Assu. Mag. vol. xiv. p. 397].

1870.—In one vol. *T. and Formulæ for the Computation of Life Contingencies, with Copious Examples of Annu., Assu., and Friendly So. Calculations. Second issue, with an Addendum comprising a large extension of the principal T.*

1872.—Mr. Gray rendered material aid in the preparation of the *Inst. of Actuaries Life T.* this year. In the preface to the vol. occur the following passages:

The laborious and responsible task of superintending the computation and printing of these T. was undertaken in the most disinterested manner by Mr. Peter Gray, whose name will be accepted as a guarantee of the accuracy and consequent value of the completed results.

To the T. themselves Mr. Gray has written an intro. fully explaining the methods of formation and various modes of their application. This renders it unnecessary for the council to do more than draw attention to his clear and able exposition: but they desire, at the same time, to record their sense of the great obligations which all interested in the present work are under to Mr. Gray for his invaluable assistance in its production.

Same year, Letter to Assu. Mag. [vol. xvii. p. 224]: *On the Partial Commutation of the Prem.*

1873.—Contributed to the Assu. Mag. [vol. xvii. p. 249, vol. xviii. pp. 20, 123] a paper: *On the Aëriometer of M. Thomas (de Colmar), and its Application to the Construction of Life Contin. T.* [CALCULATING MACHINES.] This was pub. in pamphlet form.

1876.—He pub.: *T. for the Formation of Logarithms and Anti-Logarithms to Twenty-four, or any less Number of Places; with Explanatory Intro. and Hist. Preface*: a most instructive work.

There are also letters and other short articles scattered through the 22 vols. of the Assu. Mag. which we have not particularly referred to.

All who know Mr. Gray or his works will join in wishing him continued health and mental activity.

GRAY, R. I.—Assist. Sec. of *West of England*, in which office he was trained.

GRAY, S.—Pub. 1815: *The Happiness of States; or an Inquiry concerning Pop.*, etc.

GRAY, THOMAS.—Was Man. of *Unity Fire and Unity Gen. Life* from 1858 to 1860. The circumstances attending his removal from that position will be found recorded in the

Post Mag. for 1861 (p. 148). He had been trained to the bus. in the *Liverpool and London*, and afterwards held a prominent position in the *Royal*, at Liverpool.

GRAY, WILLIAM.—Was for several years subsequent to 1868 Underwriter for *Home and Colonial Marine*.

GRAY, W. T., F.I.A.—Of the *Gen. Reversionary and Investment Co.* Of the six students who passed the final examination of the Inst. of Actuaries in 1875, Mr. Gray was first in order of merit.

He contributed to the *Assu. Mag.* [vol. xx. p. 309] a paper: *On Certain Methods of Valuation*, as applied to Life Offices, and therein he displays an efficiency in dealing with the subjects discussed, such as had been expected of him. The reviewer of his paper in the *Ins. Record* [23rd Nov. 1877, p. 388] says: "The plan adopted by Mr. Gray to lighten the labours of preparing valuations of his model office on so many distinct bases is both ingenious and elegant."

GREASY WASTE.—Waste cotton, and other waste material in mills and manufactories, when in a greasy state is liable to spontaneous combustion. Many serious fires, involving enormous losses, have resulted from this cause: hence it is usual to stipulate for its constant removal from the premises; and it is desirable that it should be contained in iron hoppers, or fireproof vessels at all times.—*Ins. Agent.*

GREAT BRITAIN.—This principal portion of the U.K. consists of England, Wales and Scotland. We propose to give a few special facts concerning it, more particularly in view of comparisons with other parts of Europe, or of the world. Gt. Britain has happily fewer causes disturbing its pop. than the other section of the U.K.—Ireland.

1824.—Dr. Thos. Young constructed what purported to be a Mort. T. for Gt. Britain this year. This we have given under title **ENGLISH LIFE T. (GENERALLY)**.

1859.—Dr. Farr pub. a Mort. T. for the "Healthy Districts of England," in connexion with which all the more salubrious portions of E. and W. are designated. See **ENGLISH LIFE T.—HEALTHY DISTRICTS.**

1861.—The Census of this year showed the pop. of the U.K. to be 29,321,288, and its density 253 to the square mile. In E. and W. the density was greater—being 347 to the square mile. In Ireland it was 181; in Scotland 101.

1871.—The following T. shows—*The Ann. Rate of Mort. p. 1000 in Gt. Britain, England, France, Austria, Prussia, and in Italy*, including the deaths of soldiers at home and abroad—1857 to 1871:

Years.	Gt. Britain.	E. & W.	France.	Austria.	Prussia.	Italy.
1857	21·7	21·8	23·8	29·5	29·9	...
1858	23·0	23·2	24·1	31·9	29·3	...
1859	22·2	22·4	27·0	30·7	27·5	...
1860	21·4	21·3	21·4	29·8	25·5	...
1861	21·5	21·6	23·2	31·2	26·9	...
1862	21·5	21·5	21·7	30·8	26·1	...
1863	23·0	23·0	22·5	31·0	27·7	30·8
1864	23·8	23·8	22·8	31·7	27·8	29·6
1865	23·3	23·4	24·3	30·0	28·9	29·8
1866	23·5	23·6	23·3	32·1	35·7	28·9
1867	22·0	22·0	22·7	27·5	27·2	34·1
1868	22·1	22·2	24·0	28·7	28·7	30·5
1869	22·8	22·6	23·5	28·1	27·7	27·7
1870	22·8	22·9	28·3	28·9	28·6	29·8
1871	22·6	22·6	...	...	30·0	...

1877.—The following table shows—*The Area, Estimated Pop., and Marriages, Births, and Deaths*, registered in the U. K. in the year 1877—latest returns:

	Area in Stat. Acres.	Area in Hectares.	Estimated Pop. in the middle of year.	Marriages	Persons Married.	Births.	Deaths.
U. Kingdom	77,635,301	31,416,757	33,446,930	244,864	489,728	1,154,683	667,995
Gt. Britain	56,815,354	22,991,528	28,108,024	220,142	440,284	1,015,024	574,442
E. & W.	37,319,221	15,102,008	24,547,309	194,852	388,704	888,200	500,496
Scotland	19,496,133	7,889,520	3,560,715	25,790	51,580	126,824	73,946
Ireland	20,819,947	8,425,229	5,338,906	24,722	49,444	139,659	93,553

Note.—On the authority of the Reg.-Gen. of Ireland it may be assumed that the number of marriages, births, and deaths, in that part of the U.K., are understated.

The following T. shows—*The Proportion p. 1000 of Pop. of Marriages, Births, and Deaths* in the U. K., and each division of the same, in the year 1877—latest return :

	Acres to a Person.	Hectares to a Person.	To 1000 Persons Living.			
			Marriages.	Persons Married.	Births.	Deaths.
U. Kingdom	2'33	'94	7'32	14'6	34'5	20'0
Gt. Britain	2'02	'82	7'83	15'7	36'1	20'4
E. and W.	1'52	'62	7'92	15'8	36'2	20'4
Scotland	5'48	2'22	7'24	14'5	35'6	20'8
Ireland	3'90	1'58	4'63	9'3	26'2	17'5

Note.—The total area of the country divided by its pop. gives the area to each person—hence also is ascertained the density of the pop.

GREAT BRITAIN FIRE INS. CO.—Founded 1871, with an authorized cap. of £300,000, in 60,000 shares of £5, and with the object, as far as practicable, of cultivating “common” or “household” insurances. The Co. was founded under the direct patronage, and in close asso. with the *Gt. Britain* Life Office.

The prospectus contained the following paragraphs :

Although fire ins. has greatly increased during the last 10 or 15 years, still it is far from being generally adopted, little more it is assumed than one-third of the insurable property in the U. K. being covered by ins. Hence the field of bus. is ample to justify the estab. of the present Co.

The experience of all large fire offices fully proves the marked superiority of “common ins.”—that is, ins. upon house property, and goods and furniture in non-hazardous buildings—over all other descriptions of risks. As a class they are more remunerative, and freer from that speculative character which unfortunately too often attends other classes of ins.

The public returns show that of the total fires in Lond. during the last few years, about one-sixth only of the whole number occurred in private houses; still the proportion of “household” ins. effected is something under one-third of the entire ins. granted by the chief offices, clearly showing the comparatively small risk attending the particular description of bus. to the cultivation of which the *Gt. Brit. Fire Ins. Co.* will especially devote itself.

The chief obstacle experienced in estab. a first-class fire Co. is the great difficulty and expense of securing a large number of efficient agents. In the present instance no such difficulty exists, as the *Gt. Brit. Fire Co.* has already made arrangements by which the whole of the valuable agency staff and the other bus. connexions of the *Gt. Brit. Life So.* will be at once placed at its disposal. The two Asso. will be closely connected, many of the directors being members of the board of each; and as the bus. of the Fire Co. will be conducted on the premises, and chiefly by the staff of the Life So., the heavy expenses necessarily attending the formation and efficient working of an extensive fire office will, to a great extent, be avoided; at the same time the two Cos. will be completely separate and distinct from each other as to their assets, liabilities, income, and profits.

It is a clearly estab. fact, that in these days of active competition the bulk of the ins. effected—whether fire or life—are obtained through the instrumentality of agents. The great advantage, therefore, to a new Fire Co. of securing on its estab. the services of a considerable number of agents in full working order, will be at once apparent; the unavoidably great expense and difficulty attending the selection and appointment of an efficient agency staff being, in the case of the *Gt. Brit. Fire Co.*, altogether saved, and through this source bus. to a very large extent will be secured the moment the Co. is prepared to undertake it.

In the early years of the bus. the Co. sustained an adverse experience. In 1878 a new Fire Man. was appointed—Mr. Watkins, previously in the *Guardian* Office—and it was hoped that better fortune might attend its future operations.

The special feature of the Co. is that its affairs are to be subjected to a quinquennial investigation in view of declaring a “Bonus” to the shareholders. This is provided for in the Art. of Asso. as follows :

105. At the end of every 5 years, or oftener should they deem it requisite, the directors shall cause a special investigation to be made into the affairs of the Co., and of the liabilities existing against and the assets held by the same, and of the balance remaining to the credit of the Gen. Ins. Fund; and after such special investigation the directors shall deal with such bal. in the manner following, that is to say :

1. By carrying such portion of such bal. as they shall think proper to an account to be called “The Reserve Fund.”

2. By apportioning such sum as with the consent of the general meeting they may determine for the ordinary dividend.

3. By causing the net bal. after such deductions as aforesaid (if in the opinion of the directors such bal. shall be of an amount to render it desirable) to be distributed as a bonus or profit amongst the shareholders, to be added to their shares until the same are fully paid up, and thenceforth to be paid in cash.

The “Reserve Fund” was to be created by prem. on sale of shares and a portion of the profits as aforesaid, and was not to be permanently closed without consent of general meeting.

GREAT BRITAIN MUT. LIFE ASSU. SO.—Founded in 1844, and was one of the earliest Ins. Offices regis. under the Joint-Stock Cos. Regis. Act—7 & 8 Vict. c. 110. An early prosp. of the So. set out the features and advantages, of which the following is an abstract :

The mut. system of Life Ins. had been attended with complete success; but it required extension, and it was now proposed to be applied to cases “wherein its application has

hitherto been deemed impracticable." The proposed advantages are enumerated as follows :

1. *Giving credit for the first 5 years' premis.*, thus facilitating the opportunities to persons to insure while in health.
2. *Giving credit (without security) for half of first 5 years' premis.*, thus facilitating the securing of a family provision.
3. By allowing persons to insure for short terms at low rates, and afterwards to become members.

The working features of the So. were : 1. After payment of 5 ann. premis. the members to become entitled to an ann. division of the surplus. The first division to be in 1849. 2. The profits in all cases to be applied to reduction of premis.

The Chairman of the So. was "The Chisholm"; the Managing Director, A. R. Irvine; the Man. of City branch, C. J. Rowsell; Head Office, 49, Waterloo Place, Pall Mall.

The D. of Sett. of the Asso. is dated 12 February, 1844, and recites that it had been agreed that a So. should be formed "on the principle of Mut. Assu. amongst its members, so as to proceed without a fixed and permanent cap.;" and further that the first 24 Directors of the So. had respectively agreed to enter into covenants for the payment of a cap. of £25,000, to be called the Guarantee Fund, as therein set forth. The So. was to be considered as commenced from the date of the Deed (2). All persons becoming members were to sign a declaration of membership (3). Any 30 or more members insured for an aggregate of £30,000 may call extraordinary meeting (12). Members insured for at least £1000, and for 5 years, to have 1 vote (20)—[reduced to £500 in 1860]. Directors not to be more than 24 nor less than 12 (33)—[altered to 18 and 9 in 1860]. No person to be eligible for a director unless insured for £1000 at least, and 5 ann. premis. paid thereon (40). The Directors might appoint Patrons of the So (62). There shall at all times be a Managing Director of the So. (88). Board to fix rates and conditions of ins., and not ins. more than £5000 on any one life (94). Lives might be substituted with consent of Directors (105). Payment of claims arising from plague, cholera, unusually contagious epidemic disorder, or of famine, invasion, civil war or commotion in any country or place, might be deferred (109). Such a sum of money as the board should consider "safe and proper" to be distributed amongst the parti. members, who have paid 5 ann. premis. (127). Laws and regulations may be altered (133). Regis. of members to be kept (134). Then :

144. That the first and present Directors shall and will pay or cause to be paid to the So. the sum of £25,000 by way of guarantee as hereinafter mentioned, or such part or parts thereof as may not have been paid up, and may be liable to be called for at such time or times hereafter as the same may be required for the purposes of the So., and the Board of Directors shall direct, whenever any board, to be specially convened for the purpose, shall pass any resolution or resolutions for requiring the payment thereof.

The said Directors to be alone liable for the £25,000 (146). Guarantee Fund not to be resorted to until other funds and property of the So. should be exhausted (149). Separate account to be kept of Guarantee Fund (150); and £5 p.c. int. paid thereon (151). Guarantee Fund might be repaid when the gen. funds reached £30,000 (152); and at end of 5 years from date of Deed was to be paid off (153). Arbitration clause (157).

1844.—The Asso. took over the bus. of the *Achilles* Brit. and Foreign Life and Loan Bank, which had been founded in 1840—and the bus. of which was very small.

1861.—A supplemental D. of Sett. under date 17 Dec. this year, recites that at two extraordinary gen. meetings held in 1844, it had been resolved—1. That branch offices, local boards, and agencies might be estab. in any part of the world. 2. That pol. on the non-parti. scale might be issued to persons not desiring to become members. Also that at other meetings held in 1860 the clauses relating to the Managing Director had been expunged; and various other alterations made. That in 1861 power had been taken to institute and prosecute actions in the Prussian Courts of Judicature; and other minor alterations, among which, "1196. That 10 p.c. of the funds of the So. for the time being, and no larger proportion of such funds, may be invested by way of loan on personal security only." These were now effectuated by this Deed.

1862.—The Asso. obtained a Special Act of Parl.—25 & 26 Vict. c. lxxiv.—*An Act to Enable the Gt. Britain Mut. Life Assu. So. to Sue and be Sued; and to confer further Powers on the So.* Members sued by the So. not to plead set-off (sec. 7). Members and pol.-holders may inspect list of members kept at office of Asso. (sec. 17). Property of Asso. to be vested in Trustees (sec. 24). Asso. not to be incorp. by this Act (sec. 29).

1865.—Mr. Andrew Francis became Sec. of the Asso. on retirement of Mr. Lawson. 1868.—The Asso. took over the bus. of the *National Union*, which had been founded in 1863. The bus. was not large.

1869.—The bus. of the *Imperial Guardian*, founded in 1867, was trans. to this Asso. It was very small.

1871.—The D. of Sett. was altered in view of an extension of the system of allocating the profits of the Asso. The completed new bus. for the year was 871 pol. insuring £255,809, and yielding in new premis. £8097. The total income from premis. was about £60,000. The claims for the year amounted to £33,377, under 104 pol. on 90 lives.

1872.—Division of Profits.—A further supplemental deed, under date 20th Feb. this year, recites that at meetings held in 1871, it had been resolved that at the expiration of 3 years from 31st Dec. 1870, and henceforward at the expiration of every 3rd year, the Directors should ascertain and determine, “upon the footing of and with reference to the accounts and statement of affairs and concerns of the So. which shall be produced at the previous ann. gen. meeting, whether any, and if any, what sum of money can with safety to the So. be allowed out of the general funds and property to be apportioned or otherwise applied by way of profits amongst and for the benefit of the members of the So. entitled to parti.” Such sum might be applied by reduction of prems. temporary or permanent, or by add. to sum insured, or towards extinction of prems. These alterations were effectuated by the present deed.

The Actuary of the Asso. pub. a pamph. on its position and prospects.

1873.—Mr. Francis retired from the man. of the Asso., and was succeeded by Mr. W. M. Makeham, who had previously held the position of Act., and now became Act. and Sec.

1875.—The Asso. took over the bus. of *Bristol and London Life*, founded in 1869. This was understood to be of small extent.

The new bus. transacted by the Asso. this year extended to 1686 pol. insuring £426,675, and yielding in new prems. £13,110. The claims amounted to £57,609. The Life Fund stood at £101,804. It was stated that the ratio of expenses of man. had been considerably reduced.

1876.—At the close of this year the triennial valuation was made. The Actuary reported that the So.’s funds could provide permanently an increasing yearly rev. bonus (commencing at 21 p.c.) on all pol. 5 years in force. This statement gave rise to some adverse criticisms in the pub. press.

1878.—It was resolved that in view of admitting greater variety in the methods of assu., and in the application of the profits or surplus funds of the So., as well as of more equitable distribution of such profits or surplus funds among the members, it should be competent for the Directors, as regards all or any assu. effected henceforth with the So., to form and constitute such assu. into any number of separate or different classes or series, the funds of which separate or different classes or series should be kept wholly distinct and separate from each other.

The ins. then in force, with any others to be included therewith, to be distinguished as class A.; other classes to be formed, and the class to which each pol. belongs to be distinguished on the pol. Separate accounts to be kept for the funds of each class. *The costs of the management to be apportioned amongst the classes rateably.* If the funds of any class or series happened to be insufficient to meet the demands on it, the sum necessary to make good the deficiency might be trans. from the other funds, and form a debt thereto, bearing 4 p.c. int., to be repaid as soon as circumstances would admit.

Some dissensions had arisen between the board and some of the principal agents of the Asso. The latter were seeking to enforce an investigation by independent Actuaries. The future of the Asso. must be a cause of great anxiety to all concerned.

GREAT BRITAIN MUT. GUARANTEE AND ACCIDENT ASSO. LIM.—Founded in 1874, with an authorized cap. of £50,000, in 20,000 shares of £2 10s., for the purpose of carrying on the bus. of Fidelity Guar. and Accident Ins. We believe the Asso. has never commenced active bus. operations.

GREAT BRITAIN’S ROYAL SO. “For securing to any person or persons, or their assigns, for ever, several great sums of money,” etc.—This So. was founded in 1717 by Mr. John Hartley, “Registrar and sole inventor of the *Amicable So.*” We shall give a more detailed account of the project under **LIFE INS., HIST. OF.**

GREAT GRIMSBY MARINE INS ASSO.—Founded at Gt. Grimsby in 1864 on the principle of the liability being limited by guarantee. Mr. J. C. Cook was the first regis. promoter.

GREAT GRIMSBY SMACKOWNERS ASSO.—Founded in 1878 for the protection, encouragement and assistance of the Gt. Grimsby (Lincolnshire) Fishing Trade. The liability of the members is lim. by guar. to £5. It does not seem clear that Ins. operations are to be directly carried on.

GREAT INTERNATIONAL LIFE.—A Co. under this title was projected in 1855—probably projected on the idea of the Gt. International Exhibition. It did not mature.

GREAT MEDICAL AND LAW LIFE.—A Co. under this high-sounding title was projected in 1855 by Mr. T. Wakley, the then well-known Coroner for Middlesex. It did not mature.

GREAT NATIONAL FIRE INS. CO. LIM.—Projected in 1874, with an authorized cap. of £5,000,000, in 100,000 preferred shares of £10; and £4,000,000 in deferred shares of £1. “No Ins. will be effected until £150,000 of the preferred ins. cap. is subs., of which amount upwards of £100,000 has already been applied for.” The prosp. said:

That there is ample room for a new fire office may be assumed from the following facts: It has been proved in the House of Commons, and has been again and again confirmed by the testimony of able statistics [statisticians?], that not one-third (amounting to £3,000,000,000 stg.) of the destructive property of the U. K. is covered by Fire Ins.; and it is estimated that this description of property is increasing at the ann. rate of £200,000,000.

The “special and important features of this Co.” were:

Rates of prem.—The prem. charged for the risk is made dependent on the individual features of the property to be protected, instead of an arbitrary assessment of the class of int. to be insured.

Share bonus to pol.-holders.—Every pol.-holder is entitled to receive a bonus of one fully paid-up deferred share for each £100 he is insured in the Co.; which shares are treated and considered as if the full amount of £1 p. share had been paid up thereon; and in pursuance of the Art. of Asso. of the Co., no holders of such paid-up shares shall be liable, under any circumstances, to any call in respect of the same.

Dividend to pol.-holders.—In any year after the payment of a dividend of 10 p.c. p.a. on the preference shares, the profits will be applied towards payment of a dividend of 10 p.c. p.a. on the deferred shares. After providing the dividend of 10 p.c. on preferred and 10 p.c. on the deferred shares, all further profits will be apportionable rateably amongst the preferred and deferred shareholders.

Under head of "Business" it is stated:

This Co. insures every description of property against loss or damage by fire; the rates of prem being regulated irrespective of the Tariff Asso., and made dependent on the nature of the buildings and trades carried on therein.

Lightning and gas.—Losses caused by explosion taking place within the building insured with the Co., and losses occasioned by lightning, will be made good when the property insured has been actually set on fire thereby.

Mr. W. Hannam was understood to be the promoter of the Co.; but Mr. Charles L. W. M. Norris-Newman was the active mover and Sec. of the Co. "The cap. is being placed privately."

In April of the following year a petition was filed for winding up the Co. by a firm of printers, for a debt of £57 14s. 6d. for work done. The following is an abstract of the proceedings on the occasion:—It appeared that the Co. was formed in Oct. last, with a cap. of £5,000,000 in preferred and deferred shares, and having, as the prosp. stated, for its president and vice-presidents, two noblemen, a colonial bishop, a foreign count, two honourables, and a baronet, and for the chairman of its London and provincial directors a foreign prince. The prosp. also stated that until £200,000 of the preferred share cap. had been subscribed, no ins. would be effected; that £175,000 of this amount had already been applied for, and that the Co. had some special and important features, and had originated an entirely new plan of ins. The petition stated that some small number of shares had been issued, but that many of the persons whose names had been affixed to the prospectus as vice-presidents and directors of the Co. had never agreed to accept office, and taken steps to have their names removed; that the petitioners on inquiring at the head office of the Co. in Queen Victoria Street, were informed that the secretary and auditors of the Co. had resigned, and that the managing director, who had given the order for the printing, had absconded. It was also stated that the Co. had about £20 at their bankers, that there were about thirty-four shareholders, and that the petitioners had unsuccessfully applied to some of the directors for payment. The Vice-Chancellor made the order, but with some reluctance, as it would necessitate the formation of a list of contributories, and all to provide for so small a debt as £57.

GREAT NORTHERN INS. CO.—A project under this title was set on foot in 1856, by Mr. Thomas Smith, but it did not mature.

GREAT POWERS, THE.—In the *Assu. Mag.* [vol. vi. p. 147] will be found the reprint of an art. bearing this title, with the following introduction by the Editor.

As the reasonings of the Actuary, when extended beyond the mere official routine of a Life Assu. Office, depend upon the proper collection of data relating to pop., and the other important elements of the condition and progress of a country, we need make no apology to our readers for presenting to them the following very interesting supplement to the valuable Rep. of Dr. Farr on the Statistical Congress at Paris in 1855.

From this art. we have drawn facts presented in other portions of this work. We do not therefore quote it here.

GREAT TOWNS.—The Reg.-Gen. furnishes in his weekly and other reports much information regarding the Vital Statistics of the Great Towns of the Kingdom, placed in comparison with continental Towns and Cities. We shall review the subject under title TOWNS.

GREAT WERDER FIRE FUND.—Estab. in Prussia, on the Vistula, in 1623, for insuring houses, crops, cattle, etc. We have already given an account of this organization under GERMANY.

GREAT WESTERN INS. CO. FOR LIFE AND FIRE.—This Co. was projected in 1851 by Mr. Robt. Palmer Harding—a gentleman who has since become widely known by his skill in liquidating the affairs of Ins. Asso. which from varying causes had not proved successful.

GREAT YARMOUTH AMICABLE INS. CO.—Founded in 1790 for the Mut. Ins. of Shipping. We have not met with any reliable details of this early Mut. Ins. Asso.

GREAT YARMOUTH AMICABLE SHIPPING INS. ASSO., unlim. and without cap.—Founded at Yarmouth (Norfolk), 1879, for the Mut. Ins. of ships and shares of ships in which the members are interested.

GREATER RANGED POLICY (FIRE).—A technical term used in the apportionment of Fire Losses. A is said to be a greater ranged pol. than B, when it insures all the property that B does, and some other in addition thereto.—*Hore.*

GREATHEAD, TIMOTHY.—Was for some years previously to 1810 Superintendent of the Underwriting department of the *London Assu. Corp.*, and he gave evidence before the Select Committee on Marine Ins. in that year.

GREATED, TIMOTHY (prob. son of above, but with altered spelling of name).—Was Underwriter of *London Assu. Corp.* from 1833 to 1834.

GREAVES, L. H.—Late resident Sec. in Liverpool for the *Caledonian*. He had formerly been Assistant Sec. to the branch of the *N. B. and Mercantile* in the same town. He died 7 Dec. 1876.

GREECE.—This ancient kingdom, which has occupied such a prominent position in the Commerce, as in the Arts of Europe, has not left such distinct traces of the practice of Ins. as was to have been expected. Geographically it occupied a much more important position in ancient than in modern times. The principal States of Greece were Athens, Sparta, Corinth, Thebes, Arcadia, and afterwards Macedon.

That the practice of *Maritime Average* was in use in Ancient Greece, Pardessus and all the other principal authorities agree. AVERAGE, MARITIME.

Mr. Reddie (*Historical View of the Law of Maritime Commerce*, 1841, pp. 41-2) says :

Among a nation like the Greeks, who carried almost every branch of art and science to such a high degree of perfection, we naturally look for a corresponding improvement in maritime jurisprudence and legis.; and although neither the Athenians nor the Corinthians—the two chief commercial States of Greece—have transmitted to us any digest or collection of Maritime Laws, it is certain that they must have had regulations for their multifarious internal and foreign traffic; . . . and although the trading States of Continental Greece have left us no code of Sea Laws for our study, it may be worth while, before investigating at greater length the celebrated Nautical Laws of the Rhodians, briefly to inquire what were the usages of trade, and the practical rules of maritime commerce, observed and enforced at Athens—the most civilized State of that civilized nation.

The results of Mr. Reddie's interesting investigation may be stated in his own words, as follows (p. 53) :

The most prob. conclusion therefore is, *that they were unacquainted with Marine Ins.*, not solely because their ships and cargoes were less exposed to the perils of the sea, to hostile attack, or to piratical depredation—not solely because their ships and cargoes were of too inconsiderable value to be worth insuring—but also, if not chiefly, because there was no great accumulation of movable cap. in the hands of individual shipowners and merchants. On the one hand, from the want of such accumulation, the vessel, though small, was usually divided into a number of shares; the part-owners frequently sailed with the vessels; the investments of the different merchants, whose goods composed the cargo, were individually small; and the merchant himself frequently accompanied his goods. On the other hand, from the same cause, there were few individuals possessed of such extensive cap. as to enable or induce them to undertake that variety of maritime risks, in which the safety and profit of the underwriter consists.

He admits, however, the prevalence of the contract of *Fenus Nauticum*, or marine usury—in modern phrase Bottomry.

We have already shown, under title BOTTOMRY, that *this* is prob. the form which early Marine Ins. contracts took. We may ask with Mr. F. Hendriks [*Assu. Mag.* vol. ii. p. 131], whether the ancients had need of any *other* form of ins.? “On every consideration, does not the contract which they made use of seem completely suitable to the wants of their commerce? To the borrower or assured it supplied a trading cap., and a pol. of assu. without doubt or danger—as the sum assured was in his own hands, exigible in the event of a fair claim arising. To the lender, or assurer, it gave, as has been before remarked, a profitable investment, over which mercantile usage, if not statute law, afforded a proper control, by public registry of the transaction, power to appoint a supercargo, and strict enforcement of other stipulations in its favour.” It must then, we think, be admitted that the Greeks had a form of Maritime Ins. suited to their wants and circumstances almost as complete as the system we now possess.

Under title BOTTOMRY will be found the earliest known contract of this description, taken from the Oration of Demosthenes against Lacritus, more than three centuries before the Christian era, placed side by side with the modern form of bond; with other important facts bearing upon this form of ancient Ins.

Those who would know more of the varied nature of these maritime contracts may with advantage turn to *The Public Economy of Athens* (Boeckh, English trans. 1828, vol. i. p. 176), where, treating of Usury, that writer says :

A still higher profit was obtained by capitalists, allowance being made for accidents, by sea-security or bottomry, in which, according to the Grecian custom, the ship, the cargo, or the money received for passengers and freightage, were answerable for the principal. The loan appears most frequently to have been made upon the goods, more rarely upon the vessel, and the money received for passengers and for freightage. . . . This species of interest, which was so odious at Rome, does not appear to have given offence in Greece, and at Athens in particular, as being a commercial town; it was, however, exposed to much risk, as the loss of the security also brought with it the loss of both principal and interest. Agreements of bottomry, in which the creditor did not undergo the risk, were prohibited by the laws of Rhodes: that is, nobody could take such high interest as was customary in bottomry, without exposing himself to the danger of the loss: but since by the Athenian law every person could take as high interest as he could obtain, this restriction was not met with at Athens; and such contracts as the Rhodian law prohibited have no connexion with agreements of bottomry; as there would be in those cases be either no security, or one which was not [? out] at sea.

The subject will be further considered under title USURY.

Vital Statistics.—Passing from the Laws of Commerce to the Laws of Health, we find much that is alike interesting and instructive.

In very early times the Greek cities looked after their water supply; and Herodotus mentions an aqueduct which the Samians used, to bring water to their city from a great spring. Aristotle considered the most important thing for a city to be a healthy site. Water and wells ought to be within the city if possible, in great abundance; if not, means ought to be taken to store rain-water, so that in case of being cut off from the surrounding country during war, there might be no want. He pointed out that water

and air have the greatest influence on health. If all the water be not equally good, or if there be no great abundance of it, a distinction must be made between drinking-water and that used for other purposes.

Plato, in his *Republic*, speaks of a country overseer, whose care should be the purity of streams, the storing and distribution of water for the inhabitants, the Temples, etc., and the provision of baths for both sick and healthy. There should also be three city overseers, who were to look to the condition of the streets and roads; to see that the houses were built conformably to rule; and that the water supplied by the country overseer was properly stored, and carefully applied for use and ornament; they were also to look after the cleansing of the streets and the management of the rain-water, both for purposes of health and irrigation.

Aristotle went yet further, and showed the bearing of the process of Education on the physical system. Education, he contended, should be the same for all, and not left to the parents. It was a matter for the care of the Government: for each individual being a member of the community, the community suffers if he goes wrong. The body should be trained judiciously before the mind—at first with moderate exercise—both gymnastics and athletic pursuits—and with liberal diet, so that the growth of the frame should not be hindered. But body and mind must not be strained together, otherwise there is the risk of injuring both. Aristotle again went beyond Plato: for he would have extended these advantages to the children of slaves, and even to females. Plato thought even the games of children ought to be the care of the State.

Further, the Greeks provided gratuitous medical attendance for all the people. It was probably because the Greeks lived so much out of doors that the question of dwellings did not receive much attention from these philosophers; but Plato remarked that a wall round a city was prejudicial to health—a fact fully confirmed by more modern investigation.

Malthus devoted a chap. (xiii.) of his famous *Essay on Pop.* to a consideration of the checks to pop. among the ancient Greeks; wherein reference is made to the regulations advocated by Plato, Aristotle, and others as to the proper age for marriage, the rearing of children, etc., etc.

The pop. of Modern Greece in 1861 was 1,332,508, and its density 66 to the square mile. In vol. 31 of *Journ. of Statistical So.* will be found (p. 265) an excellent summary of the modern V. S. of this kingdom.

GREEK FIRE.—An incendiary composition which was discharged from tubes: a fact which has led many engineers to confound it with gunpowder, and these tubes with cannon. It was known in the East of Europe as early as the year A.D. 673, when, it is said, Callinicus, an architect of Heliopolis, taught the use of it to the Greeks. It did not reach the West of Europe till much later. A receipt for its composition may be found in the treatise of Marcus Græcuscus, and in a Spanish MS. of the 13th century, in the Bodleian Library. —*Brande*. [FIRE BALLS.]

Dr. H. Medlock says the so-called Greek fire may be immediately and permanently extinguished by a solution of common washing soda—one pound to a gallon of water.

GREELEY, HORACE.—Late Ed. of *New York Tribune*. In 1871 he contributed a paper to the "*Hearthstone*": "Why Lives should be Insured." This paper was afterwards reprinted and widely circulated.

GREEN, ALEXANDER.—Was Underwriter of *Royal Exchange*, from 1837 to 1841. In 1840 he was appointed Sec., which position he held until 1854, when he retired.

GREEN, ANDREW.—Pub. 1812: *Impolicy of the Laws of Usury*. [USURY.]

GREEN, CHARLES C.—Was Man. of *Financial Ins. Co.* during its brief career, 1864-6; and was afterwards agent for City branch of *Albert Life*.

GREEN, SAMUEL.—Was Sec. of *National Industrial* from 1854 down to 1858.

GREEN, W. H.—Gloucester. For many years agent for *Norwich Union* Offices in that city (as successor to Mr. Causton). He was also a very active agent for the *Travellers and Marine Ins. Co.*

GREEN SICKNESS.—The popular term for *Chlorosis*, an affection whereby the blood becomes impaired, the countenance pallid, and, as a further consequence, the catamenia suppressed. The term takes its rise in the pale, lurid, and greenish cast of the skin. Graunt makes especial reference to this disease as largely affecting females in his day.

GREEN TREE INS. CO.—In 1784 *The Philadelphia Contributionship for the Ins. of Houses from Fire*, founded in that city in 1752 [see FRANKLIN, BENJAMIN], resolved to discontinue the ins. of houses having "shade-trees" about them—formerly a very general practice in the American cities. There was then founded in the same city *The Mutual Assu. Co.* "for the insuring of houses against loss by fire." This new Office adopted a "Green Tree" for its fire-mark or badge—hence it became commonly known as the "Green Tree Ins. Co."

GREENHOW, DR. E. HEADLAM, M.D.—Lecturer on Public Health at St. Thomas's Hospital, etc., etc. His name is permanently associated with inquiries into the Vital Statis. of the U.K.: the following being an enumeration of some of his labours:

1858.—He submitted to the General Board of Health (on the eve of its dissolution) a Report, designated: *Papers Relating to the Sanitary State of the People of England*;—

being Results of an Inquiry into the Different Proportions of Death produced by Certain Diseases in different Districts of England; with an Introductory Rep. by the Medical Officer of the Board on the Preventibility of Certain Kinds of Premature Death. [DISEASES.]

1859.—He read before the Statistical So. a paper: *On a Standard of Public Health for England* [vol. xxii. p. 253]. This paper is reviewed under DISEASES. [PUBLIC HEALTH.]

Same year he was engaged as one of the temporary Inspectors under the Privy Council to inquire into the Prevalence and Causes of Diarrhoea. His *Reports on the Prevalence and Causes of Diarrhoea at Coventry, Birmingham, Wolverhampton, Dudley, Merthyr Tydfil, Nottingham, Leeds, and Manchester, with Chorlton and Salford*, were pub. in the 2nd Rep. of the Medical Officer of the Privy Council, 1860. [DIARRHOEA.]

In the same vol. is contained Reports by Dr. Greenhow on the “Prevalent Epidemic of Diphtheria.” [DIPHTHERIA.]

1861.—In the 3rd Rep. of Medical Officer of the Privy Council is contained a *Rep. on Districts with Excessive Mort. from Lung Diseases*, by Dr. Greenhow. [LUNG DISEASES.]

He also contributed to the publications of the Gen. Board of Health—*Papers Relating to the Sanitary State of the People of England, and the Different Prevalence of Certain Diseases in Different Districts of E. and W.*

GREENOCK.—This town has long had the unenviable notoriety of being the most unhealthy of the 8 large towns of Scotland. The Rep. of the Reg.-Gen. of Scotland have drawn frequent attention to the condition of things existing here. But the most complete review is contained in a paper, read before the Social Science Congress held in Glasgow in 1860, by Dr. James Wallace, A.M., M.D., Surgeon to the Greenock Infirmary, etc., etc.: *Some of the Causes of the High Rate of Mort. in Greenock; with an Account of their Origin, as well as of the Measures which have been taken, and are still required, for their Abatement or Removal.* The average death-rate in the 5 years 1855–9 had been 1 in 29·7, as against Glasgow (the next highest) 1 in 33·4 of the pop.

The physical circumstances affecting the town, as to situation, etc., leading to great crowding of the dwellings, were regarded as among the principal causes of the evil.

GREENOCK MARINE INS. CO.—Founded prob. early in the present century, but concerning which we have been unable to obtain accurate details, was finally wound up in 1867; and the Committee finding a surplus of £109 in hand, resolved to hand over the same to the National Life Boat Institution.

GREENOCK PLATE GLASS MUT. INS. CO.—Founded in 1859 upon proposals issued by Mr. Geo. Raff, Accountant, wherein a very clear idea of the nature and proper limit of the contract of Glass Ins. was manifested. We do not know the ultimate fate of the enterprise.

GREENWICH HOSPITAL.—There is a tradition that the erection of this famous building was aided by a Tontine. We have never met with any authentic record of this; but we hope to be able to include it in our hist. of TONTINES.

The records of the pensioners of this Inst. should be available for investigations in V. Statist. There is a further tradition that the Commissioners, in the early part of the present century, purchased Gov. Life Annu. on nominees selected from amongst the pensioners, and aided the revenue of the Hospital considerably thereby.

GREGOR, D. CLUNIE, F.F.A.S.—Sec. of Foreign and Colonial Depart. of *Standard Life* since the amalg. of the *Colonial* with it. He had previously been Sec. of the last-named Co.

GREGORY, MONTAGUE.—Resident Sec. in Lond. of the *Belfast Fire* from 1875 down to the amalg. of the Co. with the *Standard Fire* in 1879. He had previously held a position in the *Liverpool, Lond. and Globe.*

GREGSON, HENRY.—Solicitor, Lancaster, pub. 1830: *Suggestions for Improving the Condition of the Industrial Classes, by estab. F. Sos. and Savings Banks in Co-operation with each other; accompanied by a Set of Rules and Regulations for Each; and also by Abstracts from the last Acts of Parl. which regulate the same.* We have already spoken of the contents of this work in our history of F. SOS.

GREGSON, JOSEPH.—Pub. in 1812: *Fires of Lond.; or, Remarks on the Ignorance that Prevails in Regard to the Manner of effecting Pol. of Ins.*

GREIG, JOHN A.—Lond. Sec. of *Provincial Life* since 1880. He was trained to the bus. of Ins. in the *Scottish Union*, which office he entered in 1866. In 1871 he was promoted to a position in the Lond. office of that Co., and in 1876 was appointed to the West End branch of same Co.

GREIG, MAJOR JOHN JAMES.—Since 1852 Head Constable of *Liverpool*, and Chief of the Fire Brigade there. He has done much to promote the efficiency of the Brigade, and deserves in a large degree the thanks of the Ins. Offices. In 1862 he gave evidence before the Select Committee on Fires in the Metro. See *LIVERPOOL.*

GRELLIER, J. J.—Many years Cashier to the *Royal Exchange Assu. Co.*, pub. the following works:

1799.—*Loans of the last 50 Years.*

1805.—*The Terms of all the Loans which have been Raised for the Public Service, with Obs. on the Rate of Int. paid for the Money Borrowed. And an Account of Navy and Exchequer Bills Funded at Different Times.* 3rd ed.

1810.—*The Hist. of the National Debt from the Revolution of 1688 to the Beginning of the Year 1800 ; with a Preliminary Account of the Debts Contracted previous to that Era.* This latter was regarded as a work of authority.

GREMILLIET, M.—Pub. in Paris in 1823 : *Nouvelle Théorie du Calcul des Intérêts Simples et Composés, des Annuités, des Rentes, et des Placements Viagers.*

GRESHAM LIFE ASSU. SO.—Founded in 1848, with an authorized cap. of £100,000, in 5000 shares of £20. [The orig. prosp. had said £200,000 in 8000 shares of £25, “with power to vary.”] Various sums have been paid upon the shares, some being fully paid, some £5 paid, and others £1 only. Total amount of paid-up cap. £21,712. The Asso. was regis. under the Joint-Stock Cos. Regis. Act, 7 & 8 Vict. c. 110.

This Co.—named after Thomas Gresham, one of the greatest benefactors of the City of Lond., of which more hereafter—has made for itself a name and a fame in Europe second to none. Its hist. is the more remarkable inasmuch as in its early years, at least, it was assailed with an amount of vituperation such as few inst. depending for success upon good credit could withstand ; and it was to be regretted that the Ins. press made itself conspicuous in this unwise course. Fortunately, the Directors were sound business men, and pursued their course undisturbed by the folly, or the malignity, of the detractors of the Co. In taking this brief historical review, we must not be understood to excuse the management from making sound and proper reserves—if there has ever been any ground for such insinuations. On the contrary, we would say : having so often encountered the shafts of envy, be especially careful in no way to justify them.

We now proceed to record the history of the Co. in such detail as may seem requisite.

The orig. prosp. contained an unusually detailed syllabus of the objects of the Asso., from which we draw the following passages :

The objects of this So. are :

1. The assu. of the lives of healthy persons ; the endowment of families ; the grant of annu. ; the purchase of rev. and life estates ; and other ordin. bus. of Life Assu. offices ; also the assu. (under special T.) of the lives of members of Building Sos. until their mortgages are paid off.

2. *The assu. (at an equitable increased rate of prem.) of the lives of such of those persons whose proposals for assu. have been declined by other offices, as may be deemed eligible upon a careful re-examination by the medical officers of this So.*

3. The granting of loans on liberal terms, upon personal or other security, either in connexion with or distinct from life assu.

The rates of prem., it was stated, alike for ordinary and declined lives, were being prepared “by an actuary of great practical experience.”

The more detailed provisions regarding the “Declined Life” branch have been set out in full under DISEASED AND IMPAIRED LIVES, this date.

Deed of Settlement.—This bears date 3rd July, 1848. We shall note the more special clauses only. 7. Directors may require a bond from incoming shareholders against adverse claims by other persons in respect of such shares. [INS. SHARES.] 10. The Co. not to be bound by notice of trusts. 12. Legatees and next-of-kin to obtain the assent of executor or administrator, and undertake the duties of a shareholder, before being regis. 15. Shares of bankrupts, insolvents, and married women to be liable to forfeiture unless regis. in the name of some proprietor within 6 years. 17. No person can become a regis. holder of any share unless approved of by board. [See case under this clause 1872.] 19. Shareholders shall have no power of individually binding the Co., or of interfering in the management of its concerns. 22. Five shareholders holding in the aggregate not less than 100 shares may call an extraordinary gen. meeting if directors fail to do so for 21 days after requisition. 26. Quorum of gen. meeting 8 shareholders holding 250 shares. 30. Ballot may be demanded in writing by 3 shareholders. 31. Voting—I vote up to 10 shares ; then scale ; no shareholder giving more than 8 votes. 33. Propositions not recommended by board require to be affirmed by majority of two-thirds. 40. Board to consist of not more than 14 nor less than 8 Directors. 42. One-third to retire annually. 52. Board to exercise all necessary powers, subject to this Deed and Joint-Stock Cos. Acts. 53. To fix and vary terms of bus., etc. 60. The Directors, with consent of gen. meeting, may buy shares in the Co. 75. Power to extend period of paying claims in case of plague, civil war, etc. 76. Power to Directors to recompense promoters for expenses, liabilities, or services. 78. Financial year to end on 31 July. 79. Records and papers to be preserved. 86. Directors to make calls. 89. Power to receive calls by anticipation, allowing 5 p.c. int. p.a. on amounts so paid. 98. Cap. may be increased to £1,000,000 on recommendation of gen. meeting. 99. The add. shares to be divided among then present proprietors. 100. Directors may borrow money not exceeding one-third of amount of cap. 102. Cap. may be converted into stock with assent of gen. meeting. 103. Cap. may be reduced. 104. Directors to confine expenditure of Co., within its available means. 105. Contracts may express that property of Co., and not of individual shareholders, is to be alone affected. 109. Int. at 5 p.c. may be paid on paid-up cap. 110. Investigation into results of bus. at end of first 7 years, then every 5 years [in 1867 altered to 3 years]. 123. Regulations for dissolution.

The organizer of the Co. was Mr. T. A. Pott, aided in the actuarial department by

Mr. J. H. James ; but it owed not a little of its early success to its Solicitor, Mr. Devonshire. Further as to the origin of the Co. see 1878.

At the end of the first 6 months bus. (close of 1848) the Co. reported that it had issued 158 pol. averaging £325 (sum insured) each. By the end of the first financial year the number of pol. had increased to 419, averaging £356 each.

Name of the Co.—Prof. Solly said at one of the gen. meetings of the Co. :

The question is sometimes asked, "Why is this office called the *Gresham*?" and that, perhaps, may be a sufficient excuse for my saying a word on this subject. It is just three centuries ago that that man died in a house in Bishopsgate Street, almost within a stone's throw of the place in which we are assembled. He was not an old man; he had not attained the age of 60, but his head was white as with the snow of ages; care and constant thought had ploughed deep furrows in his noble brow. Every one knew him, from the highest to the lowest, and all respected him. He was an honest man, who never told a lie: his word was as good as his bond. It is said that in every case in which he had a bond he paid to the uttermost farthing, and in every case where others had bonds against him, though he exacted the pound of flesh to which he was entitled, yet in no one single case did he shed one drop of innocent blood. He showed to the traders of Eng. that a man may be a good tradesman, a good merchant, a very keen man of bus., and yet be a patron of the arts, sciences, and literature, and of everything that tends to raise human nature. The two things are not incompatible, and if he had a prophetic mind he might have shown to those who came after him that they need not be ashamed of being called "a nation of shopkeepers." Now, when this Co. was formed we took the name of *Gresham* as a type of strong, sterling, British integrity. We were determined that its principles, which had made Sir Thomas Gresham's name distinguished all over the world as a British merchant prince, should be carried out by this So., and we trusted to make it, in the highest and best sense of the word, a prince amongst Ins. Cos.

1849.—An advertisement of the Co. pub. this year contained the following :

Its peculiar feature is the assu. of the lives of persons which have been "declined" by other offices. Many persons have not yet made a proposal for an assu. from the fear of being declined; the rates of most offices being applicable to first-class lives only, most individuals either have been or are at the present time subject to some malady, tending more or less to deteriorate their lives, and precluding their acceptance at the usual rates; it must be evident, therefore, there is less chance of rejection at this office than in most others.

This So. is in possession of a mass of facts which prove that thousands of lives are declined which are neither diseased nor have any strong tendency to disease—many of which might be safely assu. at the ordinary rates—and a very large number are but a trifle below the average. The So. will not assu. the lives of persons positively diseased, but will grant assu. on lives the risk upon which may be covered by a small but fixed extra charge.

In order, however, that such extra rate may not be a permanent charge, lives so assu. may, from time to time, at intervals of not less than one year, require a re-examination by the medical officer of the So., with a view to ascertain whether the causes which orig. led to the assessment of their prem. on the higher scale are still existing or have become removed; in which latter case, the So., upon being satisfied of the fact, will thenceforth assu. such lives at the same rate of prem. as would be applicable to an ordinary life of the age of the assu. at the time he originally effected his pol.

A separate account is kept of this class of assu., and an allowance or bonus, equal to 8 p.c. of the divisible profits arising from this branch of the bus., will be appropriated amongst the assu., by way of reduction of future prem.

For the "declined" lives branch, the So. possesses important and exclusive information to guide the medical examiner in a judicious decision.

1852.—The "Ins. controversy"—the war between the old and the new offices—was now at its height. This Co. had been in bus. 3 years. It had received on account of cap. £12,132, and for life prem. and annu. £36,804—total £48,936. It had expended in claims and annu. £8836, in expenses of man. £12,618, and had in hand £27,482. An analysis was made by Mr. Christie. It was found that the expenditure had equalled the whole of the cap. and 25 p.c. of the prem. in the 3 years! It was considered a very solemn state of things, and the fact was proclaimed the length and breadth of the land. No Co. that did such things could or ought to survive! But the Co. continued to go ahead, as we shall see. A valuation made at the close of its fourth year showed it to be abundantly solvent.

As an item in the pamphleteering in this controversy there was pub. : *No. 1 Hints to the Agents and Friends of Assu. Offices. By the Spirits of Robert Christie, F.I.A., Man. of the Scottish Equitable Assu. Co., and Wm. Newmarch, Sec. to the Globe Ins. Office.* "Price Sixpence. A considerable reduction made upon large numbers for circulation to the Agents and Friends of the Globe, Scottish Equitable, or other Assu. Offices." This humorous and sarcastic pamphlet was a fair retort upon those who had attacked the Co.; and there can be no indiscretion in now saying that it owed its authorship to one whose brain, pen, and voice, were ever foremost in defending and supporting the interests of this Co.

It was during this year that the Co. estab. an agency in *Paris*—and this event constitutes an important landmark in its history.

1855.—This was the year in which the first actuarial investigation into the affairs of the Co. fell to be made under the provisions of the Deed. A trial valuation had indeed been made in 1852, which indicated very favourable progress. The amount of pol. now in force stood at £1,155,538, yielding a prem. income of £40,523. The surplus shown on a 3 p.c. gross valuation was £105,272; of which the Directors recommended the division of £25,000 only—four-fifths to pol.-holders. The total funds in hand amounted to £119,376.

During this year Mr. E. J. Farren succeeded to the management of the Co. [FARREN, E. J.] The progress of the Co. now became very much more decided. Thus, in 1856, the new prem. income was £19,111; in 1857, £23,749; in 1858, £35,379.

It was during this year also that the *Italian* branch of the *Gresham* was founded in Turin. The head office of that branch is now in Florence.

1860.—The time for the second periodical investigation had now arrived. The progress of the Co. had been very satisfactory. The ann. income had reached £101,310. The bal. shown on a gross prem. valuation [rate of int. not stated—but we believe $3\frac{1}{2}$ p.c.] was stated as £206,121, of which £40,000 was divided, and the bal. carried forward. The pol. on the books were found to average but $3\frac{1}{2}$ years duration—so rapidly had the bus. grown in the later years.

The special feature of insuring *Impaired* lives had now been practically abandoned. The Co. had extended its agencies on the Continent of Europe (see 1852), the bus. in these agencies was growing rapidly—especially in Paris, and indeed through France. (See 1874.)

1862.—It was declared at this date that the Co. had received during the 14 years it had been in bus. no less than 20,000 proposals for ins. to the amount of £20,000,000.

The *Austrian Gresham* was founded this year. (See 1875.)

1864.—Mr. F. A. Curtis, F.I.A., was appointed chief officer, *vice* Mr. Farren reported dead. It is under Mr. Curtis's management that the prodigious growth of the Co. hereafter to be seen has occurred.

1865.—The period for another valuation had now arrived. The bus. had grown vastly in the quinquennium. The ann. income had reached £223,423. The invested funds were £760,796. The surplus shown on a gross 3 p.c. [not $3\frac{1}{2}$ as before] valuation was £313,000, of which a portion only was divided.

It was pointed out that the bus. of the Co. was essentially European—the *lives all residing within the Isothermal lines*—and that no Colonial or other bus. out of Europe was attempted.

1867.—The D. of Settlement was modified in two particulars: 1. Power was taken to divide the surplus more frequently than in periods of 5 years—triennial valuations have since been made. 2. The Co. might issue pol. for sums exceeding £5000—provided the excess beyond that sum was re-insured.

A valuation was accordingly made up to 31 July, 1867—a period of 2 years and 1 month. The surplus shown on a 4 p.c. gross valuation was £665,591, of which it was resolved to divide £60,000. The future divisions to be made every 3 years.

The ann. income of the Co. had now reached £297,699. Its accumulated funds stood at £1,025,492.

1868.—Mr. A. H. Smee, then Assistant Medical Officer, prepared a Report on the Mort. Experience of the Co. This, with a further Report pub. in 1871, will be reviewed under GRESHAM LIFE CO., MORT. EXPERIENCE OF, where some interesting facts connected with the bus. will be found.

1869.—The accounts of the Co. were at this date pub. very much upon the plan adopted by the Life Assu. Cos. Act, 1870.

1870.—The valuation up to 30 June, this year, was made on the basis of *Experience* T. No. 1 for adults, and on the *Carlisle* T. for the lives of children, int. $3\frac{1}{2}$ p.c. The reserve made for the life ins. contracts was £1,206,015, and for annu. £124,706. The sum of £600,000 was reserved (out of a gross prem. valuation) for future expenses and bonuses—being at the rate of 14'48 p.c.

The ann. income had now reached £418,377, and its invested funds £1,453,012. The following add. facts were also presented by Mr Smee. The Co. had received a total of £2,395,721 1s. 9d. under its ins. contracts, and £207,443 under its annuity contracts—total £2,603,164 1s. 9d. It had paid upon its ins. contracts £937,284 8s. 8d.; it had returned in surrender values £123,965 15s. 8d. It had paid annuitants £151,328 1s. 10d., making a total payment of £1,212,578 6s. 2d. It had invested and in hand £1,453,012, making up £2,665,590 6s. 2d.

1871.—On the breaking out of the Franco-German War last year, much anxiety was felt by the Board regarding the prob. effect on the mort.—the scene of operations being in the centre of some of the best districts of the Co.'s bus. A 10 p.c. extra prem. was charged for the risk of actual warfare. At first the losses were very light; but in the end (1872) it was found the Co. had lost some £6000 or £7000 above the total sum it had received for extra prems. The prediction of ruin on the one hand, and the insinuation of extortion on the other (in respect of the extra prems. charged), had each been falsified!

The new bus. of the Co. was of course considerably impeded during the progress of the war; and this, perhaps, was the more serious drawback encountered from it. The lapsing of pol. was also considerable. This had a tendency to affect the figures of the next year or two, without really impairing the solidity of the Co.

1872.—A point came before the English Law Courts under the 17th sec. of the Deed, which provides that a shareholder should not be at liberty to trans. his shares to a person not already a shareholder unless the transferee be approved by the board. It was now *Held* (reversing the decision of the then Master of the Rolls), that the Directors were not bound to disclose their reasons for refusing to regis. a trans., provided those reasons were *bond fide*.—*In re Gresham Life, ex parte Penny*. [SHARES, TRANSFER OF.]

1873.—The period for another actuarial investigation had arrived. The ann. income had now reached £453,314; the invested funds stood at £1,886,993. The rate of int. realized upon the investments of the Co. had averaged about 5 p.c. The expenses of the period had been “much intensified by the influence of the Franco-German war on the financial operations of the Co.”

The sum proposed to be divided consisted of a “surplus” of £57,977 shown in the bal.-sheet. The whole of the margin shown by the valuation, viz. £770,631, was thus carried forward—being at the rate of 17·34 p.c.

1874.—*Continental Agencies.*—The extension of the agencies of the Co. through Continental Europe, inaugurated in 1852, had been continued with much activity and enterprise, and had also likewise been attended with great success. But it was only natural that the hostility of the native offices should be aroused thereby. This was especially the case in France, where the efforts to dislodge the stranger were continual, and not always very scrupulous. But these efforts, while they prob. did little harm to the *Gresham*, were productive of real good to the cause of Life Ins. in that country. It had previously been stagnant; it has now become a vital interest of growing importance. It was during this year, and as a result of the preceding conflict, that the *Revue des Assurances sur la Vie* was estab.; and it may be said that this publication has grappled with the points at issue in a fair spirit, and with a broadness of view which cannot fail to be beneficial to all Ins. interests. We have been much struck with the effectiveness of some of the contributions signed “F. de la Norville.”

Fraudulent Claims.—A Co. carrying on so large a bus. in various parts of Europe could hardly hope to escape without some attempts at fraud. These have usually been met with a strong hand. The circumstances at Zurich in 1864 may be quoted as an instance.

In 1874 the Co. obtained a decree in its favour in the English Court of Chancery—the *Gresham Life Assu. So. v. Below*.

The bill prayed a declaration that a pol. of assu. for £4900 on the life of one Herman Wiese was obtained by the defendant by fraud, concealment, and misrepresentation, and that the same was void and ought to be delivered up to be cancelled, and that the defendant might be restrained from proceeding with an action against the Co. in respect of such pol. It was alleged that the defendant had represented to the Co. that Wiese at the time of effecting the pol. was in a good state of health, and had been proposed to no other life office, whereas Wiese had been declined by five other life offices, and was suffering from lung disease, of which he died only four months after effecting the pol.; that the defendant had no insurable interest in Wiese's life; and that Wiese had been personated before the Co.'s medical officer.

The Master of the Rolls made a decree, relieving the Co. against the pol.

1875.—The growing bus. had long rendered the offices in Old Jewry too small for the staff; but the difficulty of securing a suitable site had delayed any change. Finally this year a freehold site was acquired in the Poultry, and on the 17th July Mr. W. H. Thornthwaite, the Chairman, laid the first stone of the new building. The occasion was one of especial interest for all concerned in the welfare of the *Gresham*; and amongst those present were Mr. Alfred Smee, Mr. J. L. Hancock, Mr. E. Solly, Mr. G. Tyler, Mr. A. H. Smee, Mr. W. H. Trego, and Mr. Richard Crawley, the colleagues of Mr. Thornthwaite on the board of direction; and the members of the London staff were also in attendance. Before laying the stone, the Chairman was presented with an illuminated address, which was read by Mr. Curtis, the Act. and Sec. of the Co. By this document it appeared that the *Gresham* was founded in 1848; and, although so long a period had elapsed, five of the ten directors who originally formed the board were still living, and taking an active part in the administration. During these 27 years, upwards of 61,000 proposals have been accepted, the care manifested in the conduct of the Co.'s business being shown by the fact that more than 12,000 proposals have been declined. The total value of the pol. taken out was upwards of 26 millions sterling, to meet such portions of which as might from time to time fall due, the Co. had an ann. income of £450,000, and invested funds amounting to upwards of two millions. Branch offices had been estab. in France, Belgium, Switzerland, Germany, Bavaria, Saxony, Austria, Italy, and Egypt; and no less than 3203 persons were connected with the Co. in carrying out its operations. The names of these, as well as of the present shareholders, were duly inscribed on parchment, which was placed under the first stone, together with the pub. prospectus and reports of the first three ann. meetings. The Chairman was presented with a silver trowel, bearing a suitable inscription, and the mallet used on the occasion was presented to Mr. Alfred Smee. After the ceremony the board, with a select circle of guests, dined together in celebration of the event.

In connexion with these new offices, Prof. Solly (one of the Directors), speaking at the gen. meeting in 1876, of the difficulties and delays, legal and otherwise, connected with this enterprise, said:

He might, however, note some matters of historical interest which had come to light in making the excavation for the building. During the progress of that work, they had come across traces of the hist. of Eng. for the last 2000 years. First they had come across the remains of Queen Anne's time in

traces of the old Poultry Compter, to which rogues and vagabonds were taken. Lower down they came to the Great Fire of 1666, in the charred remains of houses which had been pulled down, and hurriedly built over again without time to remove the materials. Then a little lower they came to the times of Queen Elizabeth, in the waterworks, which used to be supplied from a pond there for the use of the gentry who lived in Bucklersbury. A little lower there were coins of the first and second Edwards; and at the bottom of all was the virgin soil, which was there when deer and goats occupied the fens of Finsbury. This was the site of that old river which, in the time of King Lud, took the name of the *Wall Brook*. They had carted away 6000 or 7000 waggon-loads of earth before they could build the solid foundation wall which was required for the safety of their new building. He hoped that the solidity of the building was significant of the future stability of their So.

Mr. Curtis, the Act. of the Co., read before the Inst. of Actuaries a paper, wherein he gave examples of the mort. results of the *Austrian Gresham*—an offshoot of the parent Co. This paper will be referred to in more detail under GRESHAM LIFE, MORTALITY EXPERIENCE OF; also under general title MORT. OBS.

1876.—Another valuation period had come round. The progress had been satisfactory. The ann. income now had reached £487,168; and its invested funds stood at £2,287,813. During this triennial period no less than 9901 life pol. had been issued, insuring a total of £4,372,279. The same T. as previously [*Experience* No. 1] was used on this occasion.

1877.—Mr. Alfred Smee, F.R.S., who, as is well known, had always taken a warm interest in the affairs of the Co., died this year (11 January), aged 58. His complete identification with its hist. was perhaps not generally understood. In the *Memoirs* of his life pub. by his daughter, there occurs (p. 96) the following passage:

He was medical officer to several Life Assu. Cos., amongst the more important of which may be mentioned the *Accident Co.* and the *Gresham*, of both of which he was one of the founders. But the latter Co. was materially assisted by my grandfather, Mr. Wm. Smee, Accountant-Gen. to the Bank of Eng., who was also one of the trustees of the *Gresham*, in conjunction with the Chief Cashier of the Bank, Mr. Matthew Marshall, and the Banker, Mr. Oldham. Without my grandfather's assistance, the *Gresham* would not have existed. As it was, it was born in the dining-room of 7, Finsbury Circus, during the autumn of 1847.

Austrian Gresham.—This Asso. has been incidentally referred to under date 1875. During the present year a gen. meeting was held in Vienna in view of considering the question of its total absorption by the parent Co.

1878.—On the 30 June this year, the thirtieth anniversary of the Co. was completed. The new life bus. during the year ending at this date (for annuities were excluded) reached the enormous total of £1,714,129 insured, covered by 4332 separate pol., giving an average of £400 each; and the corresponding new prem. were £55,938. We believe this to be the largest new bus. ever transacted by any British office in one year, up to that date. This Co. has still achieved a greater result.

The *City Press* of 12 Oct. this year, under the head of "City Improvements," gave the following description of the new offices of the Co.:

Of improvements recently effected in the City perhaps the most important are those carried out in the Poultry. This historic thoroughfare has undergone a complete transformation, even St. Mildred's Church, with a record dating back to 1325, not staying the inexorable hand of modern improvement. The site of this ancient fabric is now occupied by a palatial building for the *Gresham Life Assu. So.* The style is French Renaissance, and has been carried out in an elaborate and effective manner. The ground story has large red and grey polished piers, having Portland stone caps and bases, while the shop fronts are of real bronze. Over the So.'s entrance is a fine block of polished granite with cornice and balcony projecting considerably, and carried by large carved stone brackets. The windows of the first floor are arched, with granite jambs and carved caps and soffits; those of the second floor are square-headed. The centre of the building on each of these floors is marked by two pairs of coupled columns, with single ones between. All the columns, pilasters, and friezes are of red granite. Stone pedimented dormers, with carved parapets between them, finish the stonework of the front, excepting the panelled chimney stacks at each end, and the story in the centre, which carries the dome. This story is set back from the parapet, and contains a group of five arched windows with carved spandrels, and a couple of pilasters at each end, with a pediment over the three centre windows. Above this story is the dome, square in plan, and covered with stamped copper tiles, as are also the curb roofs behind the dormers below. The arrangement of the building is devised so as to utilize to the best advantage all the available space. There are six spacious shops on the Poultry front, three on each side of the entrance. In the centre of the building a hall leads to the So.'s extensive offices at the rear. The So. also occupies the western end of the building on three of the floors above the ground, their board-room being on the first floor. Its dimensions are 30ft. by 22ft., and it is lighted by the three windows between the coupled columns of the front. The second floor will be reached by a separate staircase in St. Mildred's Court. The top story will be devoted for the accommodation of the housekeepers, etc. Under the dome is a large room, measuring 28ft. by 24ft. Its use has not yet been designated, but it would be suitable for holding meetings. The dome contains four cisterns, from which the hydrants on the staircases will be supplied with water in case of fire. The entire frontage reaches from Chapel Place on the west to St. Mildred's Court on the east. Some idea of the extent of the structure may be gathered from the fact that the foundations extend 40ft. below the street level, and the top of the dome is roof. above. It has a most commanding appearance, even amongst the numerous fine buildings by which it is surrounded, and is a decided ornament to the locality.

In connexion with moving into this new building it may be recorded that no less than 97,000 sets of papers had to be trans.; and matters were so arranged that reference could be made to them continuously even during the very process of removal.

1879.—Another triennial period had now terminated. The income had reached £541,773; and the total assets stood at £2,663,040.

The valuation was made on the usual T., rate of int. 3½ p.c., except the immediate ann., which were valued at 4½ p.c., "which is below the rate of int. yielded by the invested funds of the So." The present value of sums insured (reduced by value of

re-insurances) was £6,584,534. The present value of gross prem. (after reserve for re-ins. prem.) was £5,363,883. The present value of the net prem. £4,453,477. The entire difference between these two last values was reserved for future expenses and profits. The difference between the value of liabilities under pol. and the net prem. value, £2,132,056, was represented by Life Fund. The sum of £88,000 was applied for bonus to pol. and shareholders.

1880.—There has been some correspondence in the *Review* (Insurance Journal) on the rate of expenditure and reserves of the Co. during the early months of this year; but as these matters are treated in a controversial manner, we do not attempt to follow the discussion.

It remains to be said that the Co. has made its wonderful progress by its own inherent force. There has been no amalgamation or taking over the bus. of any other Co., and the area of operations has been confined to Europe. The one great problem before the Directors appears to be the cost which they can afford for the large new bus. the Co. is transacting; and on this point we believe the Directors and Act. to be competent to form sound conclusions.

T. showing the Leading Facts connected with the Co. at each Period of Division of Surplus :

Year.	No. of New Pol. in the Year.	Insuring £	Total Pol. in force.	Sums insured with Bonus add. £	Life and Annu. Funds, same date.	Surplus Distributed.	Total Claims paid up to date.
1855	616	428,249	2,667	1,155,538	119,377	25,000	35,000
1860	1187	638,820	6,696	2,962,591	230,166	40,000	151,544
1865	4806	1,709,121	17,091	6,630,192	701,177	75,000	424,261
1867	3483	1,152,338	19,634	7,650,092	955,314	60,000	589,565
1870	3552	1,656,617	23,945	9,463,175	1,330,721	50,000	946,627
1873	2656	1,350,166	24,930	10,055,696	1,763,106	57,000	1,486,617
1876	3389	1,454,186	26,788	10,956,586	2,129,707	80,000	2,160,818
1879	4858	1,861,106	31,126	12,521,495	2,470,509	88,000	3,078,939

GRESHAM LIFE CO., MORTALITY EXPERIENCE OF.—In 1868 Mr. A. H. Smee, then the Assistant Medical Officer of the *Gresham*, tabulated the causes of the first 1000 deaths—occurring between the commencement of the Co. in 1848 and the 15 July, 1866—a period of 18 years. An add. interest attaches to this investigation from the circumstance that for some portion of the period in question the office transacted a considerable bus. in impaired lives. The bus. of the office is indeed divided into three distinct classes, viz. Healthy English lives; English lives at extra rates; and Continental lives. *No life out of England is insured where the state of health requires an extra prem.* The foreign lives other than European were too small in number to affect the results.

The Order of Frequency of Death in the 1000 Cases was as follows :

Phthisis	153	Suicide	12	Smallpox	4
Apoplexy	83	Epilepsy	10	Pyæmia	3
Bronchitis	68	Cystitis	10	Abscess	4
Congestion of Lungs.....	38	Erysipelas	9	Ascites	3
Disease of Brain	38	Stricture of Intestines.....	9	Hernia	3
Disease of Heart	34	Diarrhœa	8	Hepatitis	3
Paralysis	31	Dysentery	8	Hæmatemesis	3
Pneumonia	29	Gastritis	8	Ischuria	3
Typhus Fever	27	Cholera	7	Child Birth	3
Congestion of Brain	28	Hæmorrhage	7	Intemperance	2
Disease of Lungs	25	Aneurism	7	Inflammation of Trachea ..	2
Cancer	21	Peritonitis	7	Scrofula	2
Dropsy	20	Insanity	6	Tabes Mesenterica	2
Fevers (not specified) ..	20	Gangrene	6	Tetanus	2
Typhoid Fever	19	Debility	6	Diabetes	2
Liver	18	Gout	5	Uterus and Ovaries	2
Diseases of Stomach.....	18	Rheumatism	5	Fistula	1
Disease of Kidneys	14	Carbuncle.....	5	Cold	1
Drowning	14	Asthma	5	Purpura	1
Bright's Disease	14	Pneumothorax.....	5	Measles.....	1
Hæmoptysis	14	Jaundice	5	Ileus	1
Old Age.....	13	Angina Pectoris	5	Disease of Pancreas	1
Pleurisy	14	Endocarditis	5	Hydrocephalus	1
Accidents	12	Tumour	4	Unknown	6
Pericarditis	11	Ulceration of Intestines ..	4		

The following T. shows the intensity of the *Gresham* mort. under the 12 leading classifications, on an average of 1000 deaths :

Cause of Death.	Whole, Gresham.	English Normal Rates.	English Extra Rates.	Conti- nental.	Austria.	Italy.	Healthy and Continental.
Zymotic	121'0	89'8	87'4	172'9	268'5	214'3	129'7
Uncertain Seat	67'0	72'8	87'4	49'7	64'8	58'4	61'7
Tubercular	158'0	203'9	169'9	102'0	92'6	45'5	153'7
Nervous System	198'0	206'3	174'3	198'9	111'1	194'7	202'7
Circulatory	62'0	43'7	87'4	68'0	37'3	77'9	56'6
Respiratory	200'0	174'8	199'0	230'6	259'3	220'8	201'5
Digestive	83'0	89'8	77'7	78'4	46'3	64'9	84'4
Urinary	43'0	41'3	53'8	39'3	18'5	19'4	40'3
Generative	5'0	9'7	4'9	.....	.....	19'5	5'1
Age, Debility	19'0	14'5	33'9	15'7	27'7	19'5	15'2
Violence.....	38'0	51'0	19'4	34'0	46'2	45'5	42'8
Unknown	6'0	2'4	4'9	10'5	27'7	19'6	6'3
	1000	1000	1000	1000	1000	1000	1000

The following T. shows the intensity of the several causes of death in the *Gresham*, in comparison with that of several other offices whose experience has been pub., all reduced to 1000 :

Disease.	Gresham.	Scottish Amicable.	Scottish Equitable.	Gotha.	Clerks Ins. (var. sources.)	Equitable So.	Scottish Widows' Fund.
Zymotic	121'0	203'1	132'1	210'8	136'0	121'9	116'6
Uncertain Seat	67'0	44'0	67'4	153'8	61'5	111'4	58'6
Tubercular	158'0	138'4	113'6	176'8	254'9	82'8	68'7
Nervous System	198'0	168'2	210'3	151'7	145'8	200'5	216'7
Circulatory System	62'0	86'7	118'6	27'9	62'5	36'4	158'1
Respiratory System	200'0	100'9	118'0	101'6	124'0	124'0	128'8
Digestive System.....	83'0	125'5	118'6	83'8	86'3	99'3	123'0
Urinary	43'0	29'7	53'3	16'2	40'7	36'2	62'3
Generative	5'0	3'9	4'3	4'1	1'9	'9	1'4
Debility, Age, and Sudden Death.....	19'0	20'7	23'2	34'8	26'8	148'7	35'0
Violence	38'0	55'6	37'7	35'2	53'6	18'5	28'6
Unknown	6'0	23'3	2'9	3'3	6'0	19'4	2'2
	1000'0	1000'0	1000'0	1000'0	1000'0	1000'0	1000'0

The excessive proportion of deaths from disease of the respiratory system in the *Gresham*, in comparison with other offices, appears to have arisen not from the diseased life class, but from Continental lives.

We have made but a brief abstract of the collection of facts supplied—all arranged in a most clear and simple manner. Mr. Smee remarks : " Much valuable information will be obtained in any future investigation of the mort. experience of the *Gresham*, from watching the effect of various occupations and climates in predisposing individuals to certain diseases. I would cite as an instance the great liability of clerks (mercantile) to consumption."

Appended to the Rep. are several beautiful diagrams prepared by Mr. Curtis, the Actuary of the office, illustrative of the points in the preceding T. We ought to add that in the orig. Rep. was included T. not embraced in the publication from which we have quoted.

1871.—Mr. A. H. Smee prepared a further Rep. on the causes of death of the second 1000 pol.-holders, which had occurred between 15 July, 1866, and Nov. 1870. The arrangement of the data is the same as that of 1868 ; but some add. T. are given to elucidate further points of information. There are some introductory or explanatory remarks, from which we draw the following passages :

A comparison of T. will show that the deaths from zymotic disease have increased from 121 to 157. This large increase is no doubt partly due to the epidemic of *cholera*, which swept along the shores of the Mediterranean during the summer of 1866, the deaths from cholera having risen from 7 to 32, and partly to our having a larger number of lives at risk in the eastern parts of Europe, where zymotic diseases are more frequent.

The diseases of uncertain seat have increased, especially cancer, which has nearly doubled in number since the first examination. Dropsy, on the other hand, has fallen. This is prob. due to the fact that many dropsies (depending on cardiac mischief) are now classed under diseases of the heart, whilst they were formerly returned as simple dropsy.

The deaths from tubercular disease remain the same. The diseases of the nervous system have decreased from 198 to 170; the disease appears to be pretty uniformly distributed among the various diseases to which the brain and nervous system are liable.

A very considerable increase has taken place in the deaths from heart disease, the number having risen from 62 to 95. This large increase appears to be mainly due to fatty degeneration of the heart. By the study of a T. constructed to show the influence of *occupation* as a predisposing cause to certain forms of disease, it will be noticed that pecuniary embarrassment has a prejudicial influence over the heart's action, and the financial difficulties through which the commercial classes have passed during the last few years have no doubt greatly tended to this large increase of heart disease. [FINANCIAL PANICS.]

I am happy to state that the deaths from acute diseases of the respiratory organs show a decided improvement, the deaths being 165 against 200. The diseases of the digestive, urinary, generative organs, age, debility, and violence, need no comment, the deaths remaining almost identically the same.

The following gives the causes of death for the entire 1000 cases :

Phthisis	145	Peritonitis	8	Abscess	3
Apoplexy	78	Disease of Stomach	8	Tubercular Disease of	
Heart Disease	71	Cystitis	8	Larynx	3
Cancer	42	Debility	8	Tetanus	3
Bronchitis	36	Shot	8	Aneurism	3
Disease of Liver.....	35	Pyæmia	7	Diphtheria	3
Paralysis.....	32	Dropsy	7	Hæmoptysis	3
Cholera	32	Hæmorrhage	7	Jaundice	3
Typhoid Fever	31	Endocarditis	7	Disease of Uterus	3
Pneumonia.....	31	Drowned	7	Syncope	3
Inflammation of Lungs	29	Miliary Fever.....	6	Burns	3
Typhus	25	Diarrhœa	6	Unknown	3
Disease of Brain	24	Dysentery	6	Smallpox	2
Pleurisy	24	Carbuncle	5	Purpura	2
Disease of Kidney.....	18	Intemperance.....	5	Tumour	2
Meningitis	15	Hepatitis	5	Disease of Bones	2
Bright's Disease.....	14	Tubercular Disease of		Scrofula	2
Rheumatic Fever	13	Brain	5	Hernia	2
Cerebral Congestion ..	12	Hydrothorax	5	Disease of Testicles	2
Disease of Lungs	12	Intermittent Fever.....	4	Tabes Mesenterica.....	1
Gastritis and Enteritis ..	12	Gangrene	4	Insanity	1
Pericarditis	10	Disease of Spine	4	Epilepsy	1
Pleuropneumonia	10	Angina Pectoris.....	4	Invagination of Intes-	
Old Age.....	10	Inflammation of Larynx		tines	1
Accident.....	10	and Trachea	4	Ascites	1
Erysipelas	9	Diabetes.....	4	Hæmatemesis	1
Suicide	9	Scarlet Fever.....	3	Calculus	1
Asthma	8	Gout	3	Influenza	1

The following T. shows the causes of death at 7 decennial ages :

Causes of Death.	Ages Under.							Total.
	20	30	40	50	60	70	80	
Zymotic .....	.....	18	39	46	32	20	2	157
Uncertain Seat .....	.....	.....	6	27	27	9	1	70
Tubercular	1	19	63	41	25	7	.....	156
Disease of the Brain .....	.....	7	26	37	53	35	12	170
Disease of Circulation .....	.....	1	13	28	34	16	3	95
Disease of Respiratory Organs	1	8	33	44	49	22	8	165
Disease of Digestive Organs ..	.....	9	10	26	20	8	3	76
Disease of Urinary Organs .....	.....	.....	7	10	14	11	3	45
Disease of Generative Organs ..	.....	.....	3	1	.....	1	.....	5
Causes ill-defined .....	.....	.....	3	1	5	7	5	21
Violence .....	.....	3	12	14	7	1	.....	37
Not stated .....	.....	.....	.....	2	.....	1	.....	3
	2	65	215	277	266	138	37	1000

It will be observed that the ages at death are higher than in the case of the first thousand lives.

The following T. gives the causes of death extended to 1000 deaths in each agency for comparison :

Causes of Death.	1st 1000.	2nd 1000.	England.	France.	West Germany.	Bavaria.	Austria.	Italy.
Zymotic	121	157	98	161	69	140	236	269
Uncertain Seat	67	70	68	78	87	53	77	31
Tubercular	158	156	170	146	275	193	121	31
Disease of Nervous System	198	170	151	245	156	281	110	161
Disease of Circulatory Organs	62	95	113	89	81	35	88	108
Disease of Respiratory Organs	200	165	132	125	194	140	209	215
Disease of Digestive Organs.....	83	76	102	83	56	35	60	85
Disease of Urinary Organs	43	45	66	22	31	88	49	39
Disease of Generative Organs	5	5	3	5	.....	.....	5	15
Age and Debility	19	21	53	5	13	.....	5	15
Violence	38	37	41	36	38	35	33	31
Unknown	6	3	3	5	.....	.....	6	.....
	1000	1000	1000	1000	1000	1000	1000	1000

An analysis of this T. shows that under zymotic diseases the deaths in *Austria* and *Italy* had reached the high number of 24 and 27 p.c. of the total deaths; the mort. from this cause gradually lessened in *Bavaria* and *France*; whilst *England* and *West Germany* suffered least.

Mr. Smee adds some additional remarks on the results of this T. as follows :

The diseases of uncertain seat (cancer) appear to be uniformly distributed, with the exception of *Italy*, in which agency the number of deaths from this cause was below the average.

Tubercular disease (*i.e.* consumption) has a very definite distribution. The deaths from this cause are most severe in *West Germany*, in which agency the deaths amount to 28 p.c. of the whole number; *Bavaria* 19 p.c.; *England* 17 p.c. In *France* and *Austria* the deaths are fewer in number, whilst in *Italy* the deaths reach the small number of 3 p.c.

Bavaria and *France* suffer most severely from diseases of the nervous system.

In *England* and *Italy* the diseases of circulation appear to be heaviest.

The acute diseases of the respiratory organs appear to prevail in *Italy*, *Austria*, and *West Germany*; in all these agencies the relative deaths from this cause are considerably above the average.

It is curious to observe that diseases of the digestive organs greatly exceed in England the relative number found in other countries, and point to some habit in our mode of living in this country detrimental to the process of digestion; possibly the frequent indulgence of the glass of sherry and biscuit (taken on an empty stomach) may greatly contribute to this result. It will also be noticed that the death rate from this cause is high among the English Cos. which have given to the world the benefit of their experience.

It is worthy of notice how the diseases of the urinary organs preponderate in the beer-drinking countries—England, Bavaria, and Austria—against the wine-drinking countries of West Germany, France, and Italy.

The deaths from diseases of the organs of generation have been too few to require any special comment.

As for deaths from *age and debility*, *England* alone shows any great mortality; and likewise deaths from *violence*, *England* also shows an excess over the rest of the Continent.

He had constructed a T. to show the relative distribution of the principal diseases through the different agencies. It was there noticeable how cholera, in the epidemic of 1866, was most fatal in *Italy*, and gradually diminished in fatality as it travelled in a north-westerly direction; and how typhoid fever, comparatively common in *France* and *Italy*, is replaced by typhus in the *Austrian Empire*.

Finally, Mr. Smee calls the attention of the Directors to the following conclusions, which he had arrived at after a careful study of the foregoing tables:

1. That as a whole the relative causes of death at the *Gresham* generally accord with the expected result.

2. That the age at death is decidedly higher than at the first examination.

3. The relative deaths in *France* are more satisfactory, when contrasted with other countries.

4. *England* appears to maintain a good position.

5. *West Germany* must be considered less satisfactory, owing to the number of deaths from tubercular disease; and also the number of deaths that fall in during the first year from this disease. I think it would be advisable for the Directors to call the attention of the medical officers in that agency to the fact, and also to suggest to them to make a more careful examination of the state of the organs of respiration and circulation.

6. The same remarks apply to *Bavarian* agency as to *West Germany*.

7. In *Italy* the mort. is very high from zymotic disease, and also from acute lung mischief; otherwise the relative deaths in this agency appear satisfactory.

8. In the *Austrian* agency the relative cause of death is not as satisfactory as could be desired; and probably the rate of mort. in this agency is higher than elsewhere, judging from the number of claims falling in the first year of ins. from zymotic and acute diseases; also that these claims are due to diseases over which medical selection is practically powerless.

In concluding the examination, I would add that each case has been most thoroughly sifted; the orig. papers have been, as far as possible, consulted. I believe that the extra labour thus incurred has been most profitably expended.

I believe that the form in which the T. have now been prepared by separation of the deaths of the various agencies into separate T. will, in comparing the results of future examinations, afford an easy and short method of judging of the state and cause of the mort. in different agencies, and this will afford valuable information to guide the judgment of your medical officers.

1875.—Mr. F. A. Curtis, the Act. of the Co., read before the Inst. of Act. a paper : *A Scheme for the Collection of Data for Periodical Obs. of Mort. among Lives Selected for Assu. : illustrated by Example from Obs. of Mort. in Austria* [*Assu. Mag.* vol. xix. p. 229]. The more general points of the paper will be reviewed under MORT. OBS., this date. We shall here deal, in abstract, with those facts which relate to the "*Austrian Gresham*"—orig. an offshoot of the parent Co., but now absorbed into it.

The data necessary for the investigation of the mort. among the assured lives were obtained upon cards, in the way now usually adopted ; but the manipulation of the cards in marshalling the data was not the same.

Every pol. of assu. issued by the Co. was represented by a mort. card of precisely the same form and size as those used by the Inst. Upon these cards the following particulars of each pol. were written :—The number—the names of the assured—class of assurance, and the amount—the day, month and year of entry—and the same of exit (if not existing at the close of the period)—the date of birth, if known (otherwise the year of birth)—the cause of exit—the date of death, and completed age at death (if the policy were discontinued from that cause).

These cards having been filled up and examined, were first of all arranged in groups, according to the year of birth, with a view to eliminate duplicate cases ; for as the natural birth of a man can only happen once, any duplicate card upon his life should be sought for in the group belonging to the year of his birth. Each group was then sorted into the alphabetical order of the surnames, and if more than one card related to the same life, such cards were placed together in an envelope, and put aside for special examination. If the assurances were found to be concurrent or continuous, they were dealt with as one case, the risk of assu. running from first to last ; but if the assu. were not continuous—*i.e.* broken by an interval—they were treated as separate risks, the one risk running out, succeeded by an interval, and another risk commencing.

In this way the duplication of lives was avoided. The next step in the investigation was to classify the cards in each group of years of birth, according to the calendar half years in which the assu. risks commenced, and again into the calendar half years of exit, within the period under obs. They were thus divided into the four sections before mentioned, and the cards in each section, and in the several sets of entrance or exit, were collected in packets according to the year of birth ; the numbers in each packet were counted, and the resulting numbers were recorded in an appropriate tabular form, explained in detail.

The next step in this investigation was to tabulate the cases of exit by death. The cases in force at the commencement of the period, but emerging by death before the close of it, were tabulated according to the completed age at death and the half year of exit. The cases entering within the period and emerging by death were tabulated in the same way, and a collective total made of the two groups.

The principal results obtained under this scheme are all that it would be necessary for the several offices to contribute to the Inst. for obtaining a combined experience of mort. during specified periods of time ; but it will be observed that this method of collecting the data will enable a manager to analyze very minutely the quality of the business which he has to manage. It cannot be expected that the bus. of a Co. shall be equally good in all its parts, and it is important for a manager to know where inferiority may exist, so that a suitable remedy may be applied.

Some of the data which individual Cos. might usefully contribute to the records of mort. may be illustrated by the T. "which I am permitted to lay before the members of the Inst., with reference to the mort. in the *Austrian Gresham*—a Co. whose business extends over the Empire of Austria and the Kingdom of Hungary."

The first T. gives at each age the collective totals of the years at risk, according to the four sections into which the cases were distributed. These observations were taken on 5033 lives, and the years lived through were 12,020½.

The second T. is of cases emerging by death within the period, showing the number of deaths at each completed age, in two divisions, *i.e.* of cases in force on the 30th June, 1865, and of cases entering subsequently.

The third T. shows, first of all, the unadjusted result of a comparison of the actual mort. at each age with the prob. mort. according to the Combined Experience of the 17 English Offices. [*Experience T. No. 1.*] This T. we give in extenso on page 560.

As the actual deaths were 204, and the prob. deaths 162, it will be seen at once that, so far as these figures may be taken as evidence upon the point, an Austrian Co. cannot safely assure lives in that part of Europe unless at a higher rate of prem. than the ordinary rate charged by English Cos. Such is the broad result of this investigation. It is quite independent of the question, whether or not the Austrian Co. has received a money equivalent for the higher risk of mort., by surcharge of the age or by other means. The true age has been reckoned, because the investigation has been directed to ascertain the true rate of mort., irrespective of any question of finance.

The number of deaths at each completed age are too few and too irregular in their numbers to admit of being compared, age by age, with the standard of the "Combined Experience," unless previously adjusted, so as to get rid of inequalities. There is (says

T. Comparing the Experience of the Austrian Gresham with that of the Combined Experience of the 17 English Offices [Experience T. No. 1]:

Age.	Unadjusted Results.		Adjusted Results raised to 93268 Living at Age 20.		Prob. of One Dying within a Year.		Age.
	Prob. Deaths, Combined Exp.	Actual Deaths.	Living.	Dying.	Austrian Gresham.	Combined Experience.	
20	'17678	I	93,268	1193	'01279	'00729	20
21	'20739	...	92,075	1048	'01138	'00738	21
22	'25364	I	91,027	969	'01065	'00746	22
23	'43370	...	90,058	752	'00835	'00756	23
24	'61035	...	89,306	713	'00798	'00767	24
25	'77700	2	88,593	717	'00810	'00777	25
26	I'14589	I	87,876	667	'00759	'00789	26
27	I'41977	...	87,209	698	'00800	'00801	27
28	I'87627	3	86,511	768	'00887	'00814	28
29	2'34531	2	85,743	776	'00905	'00828	29
30	2'69440	2	84,967	806	'00949	'00842	30
31	2'95367	6	84,161	900	'01070	'00858	31
32	3'36208	3	83,261	912	'01095	'00875	32
33	3'61260	3	82,349	939	'01140	'00892	33
34	3'83020	6	81,410	1015	'01247	'00910	34
35	4'01328	8	80,395	1059	'01318	'00929	35
36	3'97723	3	79,336	1035	'01304	'00948	36
37	3'88326	6	78,301	1035	'01322	'00969	37
38	4'13247	8	77,266	979	'01268	'00991	38
39	4'12674	5	76,287	872	'01142	'01013	39
40	4'53869	4	75,415	796	'01056	'01036	40
41	5'01057	3	74,619	772	'01035	'01061	41
42	5'13008	2	73,847	780	'01056	'01089	42
43	5'25770	6	73,067	863	'01181	'01125	43
44	5'38200	8	72,204	996	'01379	'01170	44
45	5'27472	7	71,208	1106	'01554	'01221	45
46	5'01044	6	70,102	1197	'01708	'01284	46
47	4'93818	8	68,905	1255	'01821	'01352	47
48	4'89444	9	67,650	1260	'01864	'01426	48
49	5'06293	5	66,390	1203	'01812	'01506	49
50	4'98524	5	65,187	1219	'01870	'01594	50
51	5'18830	3	63,968	1266	'01979	'01690	51
52	4'87343	7	62,702	1360	'02168	'01795	52
53	4'71945	4	61,342	1458	'02377	'01909	53
54	4'21940	I I	59,884	1609	'02687	'02031	54
55	4'04501	6	58,275	1647	'02826	'02166	55
56	3'67767	3	56,628	1630	'02877	'02313	56
57	3'38732	4	54,998	1666	'03029	'02468	57
58	3'31854	I	53,332	1695	'03179	'02639	58
59	3'36880	6	51,637	1801	'03488	'02825	59
60	3'32881	3	49,836	1949	'03910	'03034	60
61	3'41589	9	47,887	2152	'04494	'03261	61
62	2'95886	2	45,735	2084	'04558	'03512	62
63	2'75232	4	43,651	2128	'04874	'03784	63
64	2'32731	3	41,523	2093	'05040	'04083	64
65	2'04972	2	39,430	2105	'05339	'04408	65
66	I'83298	...	37,325	2143	'05742	'04761	66
67	I'34109	4	35,182	2604	'07402	'05147	67
68	I'37684	3	32,578	2845	'08732	'05563	68
69	I'18678	2	29,733	3010	'10123	'06009	69
70	'74670	2	26,723	3263	'12213	'06493	70
71	'28064	I	23,460	3395	'14470	'07016	71
72	'20845	...	20,065	3052	'15211	'07580	72
73	'06141	I	17,013	3182	'18704	'08188	73
161'98274		204					

Mr. Curtis) no way more simple of distributing these inequalities, while preserving the character of the mort. curve, than the obvious method of throwing upon each age, as a central point, the effect of its immediate neighbours, or averaging for each age the sum of

the figures against the two higher and the two lower ages added to its own. If the result should still show great inequalities, the resulting averages might be dealt with in the same way.

This mode of graduation has been employed as well for the years at risk as for the actual deaths, and the resulting figures of the prob. of life and of death within the year at each age is also given, in which are also included, for the sake of comparison, the like prob. according to the Combined Experience of the 17 Offices. With a view to this comparison, the experience of the *Austrian Gresham* has been raised to the equivalent of the Combined Experience, starting from 93,268 lives at the age of 20. Mr. Curtis continues :

Such are the general results of the obs. of the mort. among lives assured in the *Austrian Gresham*, during the quinquennium 1865-70. That Co. began its operations about the year 1862; the pol. continuing in force in 1865 were comparatively few, therefore the whole of the cases may be considered as of recent date. It will be interesting to know the subsequent history of these cases. They have been observed during a further period of 4 years—*i.e.* between 1870 and 1874. The mort. cards of the 1st and 2nd sect. of pol. which remained in force on 30th June, 1866, and also the entrants of 1865-6 remaining assu. at that date, were revised, and the results were tabulated as before. The result may be briefly summed up as follows: 1093 continuants; the years at risk were 3802, of which, 2450 at ages of 50 and under, and 1352 at ages over 50; the probable deaths were 66, and the actual deaths 62—the expec. and the reality being for the younger portion 28 as against 21, and for the elder portion 38 as against 41.

We here observe a considerable improvement in the rate of mort.—the effect of selection may be held as completely exhausted, and yet the rate of mort. is more favourable than in the experience of the earlier years, when the effect of selection was operating. Is this result to be attributed to a healthier period of years, or to the influence of measures taken to avoid incipient fraud on the Co.? We might be able to answer this question if we had a standard rate of mort. during those periods with which to compare the experience of the *Austrian Gresham*. This question may be partially answered, if we carry our obs. of the Austrian mort. a little further. There were 3169 cases in force in 1870—these included the remainder of the cases in force in 1866, and the entrants in 1866-70; the years at risk were 10,514½, of which, 7384½ at ages of 50 and under, and 3130½ at ages over 50; the probable deaths were 168, and the actual deaths 181—the expec. and the reality being for the younger portion 81 as against 89, and for the elder portion 87 as against 92. Here it may be remarked, that the introduction of new cases seems to increase the rate of the mort., and that possibly the effect of selection is more than counterbalanced by the proposals made to the Co. *malâ fides*, the effect of which would be most felt in the years immediately following.

The Austrian Co., acting on the experience of the past, instituted, about the year 1870, a system of inspection over its several agencies, by which it was hoped that the quality of the proposals made to the Co. might be of a higher order than those previously obtained,—the result of this system of inspection, and of the greater experience of the medical examiners, may be gathered from the obs. of the mort. amongst the lives upon which assu. were effected in the period 1870-1874. Of these cases there were 2089; the years at risk were 3484½, of which, 2902 at ages of 50 and under, and 586½ over 50; the probable deaths were 44, and the actual deaths 43—the expectation and the reality being for the younger portion 29 as against 30, and for the elder portion 15 as against 13. The combination of these several experiences may be summed up in a general rate of mort., in which the expec. is represented by 110 deaths at ages of 50 and under, while the deaths occurring were 119; and by 102 deaths expected at ages over 50, while the actual number was 105.

The results of this most interesting paper are further illustrated by the aid of a diagram.

GRETNÄ GREEN MARRIAGES.—Made illegal 1856. See MARRIAGES.

GREY, JOHN.—Was Act. of *Imperial Life* from its commencement, in 1820, down to 1826, when he died, aged 40. He was trained to the bus. in the Life depart. of *Royal Exchange*.

GREY, W. H.—Accountant and Arbitrator, and Sec. to Parl. Committee on Church Leases, pub. in 1851 a pamph., *Church Leases*.

GREYL, ZACHARY.—A Pole. In the 17th century he invented a fire-engine on a peculiar principle, to which he appears to have attached considerable importance. He said he had invented a certain engine which was easily manageable for extinguishing fires. The mode of working the engine he proposed to divulge for a large premium to be given him by the Crown, or by subscription from private individuals; but meeting with no success, and refusing on any other terms to divulge the secret of his invention, he died without making it known. After his death the secret was discovered, and the King of Poland was induced to give a considerable sum of money to obtain it. It was as follows:—A wooden vessel capable of holding a considerable quantity of water, in the centre of which was to be fixed a tube containing gunpowder, with a train brought to the surface by a small pipe. The vessel was then to be brought into the burning room, and a fusee applied. The gunpowder tube would burst, and the water forced in every direction, by which the fire would be immediately extinguished. The difficulty consisted in getting the apparatus into the burning building. The King of Poland does not appear to have been pleased with his bargain. [FIRE ANNIHILATORS, 1722.]

GRIERSON, SAM'L.—Was joint Ed. (with Mr. Ecclesine) of *Underwriters' Weekly Circular*, pub. in N.Y. from 1862. He died in 1876, at the advanced age of 76, greatly respected. [U.S. INS. JOURNALS.]

GRIEF, DEATHS FROM.—From the earliest times of which we have any records, deaths from grief have been known in England. Thus, in the B. of Mort. for London, 1665, the deaths

from this cause were recorded as being 46. Shakespeare realized the effect of grief upon the corporal system :—

My grief lies all within;
And these external manners of lament
Are merely shadows to the unseen grief,
That swells with silence in the tortured soul.—*Richard II.*

Again :

Now will canker sorrow eat my bud.
And chase the native beauty from his cheek,
And he will look as hollow as a ghost;
As dim and meagre as an ague's fit.—*King John.*

This latter points perhaps rather to consumption.

Yet more emphatically, he makes *Macbeth* ask the physician :

Canst thou minister to a mind diseas'd,
Pluck from the memory a rooted sorrow,
Raze out the written troubles of the brain,
And with some sweet oblivious antidote
Cleanse the stuff'd bosom of that perilous stuff
Which weighs upon the heart?

Pettigrew—*Superstitions connected with the History and Practice of Medicine and Surgery*—in treating of the influence of the mind upon the body, says :

... Grief, on the other hand, depresses the action of the heart, and causes serous accumulations in the larger vessels and lungs, . . . Violent grief may be speedy and fatal in its effects, but that which is slow and continued is most inimical to health. It undermines the strongest and best of constitutions, and is the cause of a long catalogue of diseases. The energy of the nervous system is weakened, the functions are carried on in a slow and an unequal manner, so that in these cases the body and soul may literally be said reciprocally to prey on each other.

'Tis painful thinking that corrodes our clay.—*Armstrong.*

The modern B. of Mort., as contained in the Rep. of Reg.-Gen. for E. and W., occasionally contain some deaths regis. as from this cause. In 1866 they were 4—2 males, 2 females; 1867, 3 females. The age of the males in each case was between 35 and 45; of the females, 1 between 15 and 20; 1 between 35 and 45; 1 between 55 and 65, and 2 between 65 and 75.

The scientific classification now in use is gradually displacing the pop. nomenclature; and hence deaths from this cause become classed under *Hysteria, Insanity*, etc.

There can be no doubt that grief, disappointment, "worry," cause a very much larger number of deaths than can ever be recorded: the operation being silent and usually unknown to nearly all but the sufferer. [FINANCIAL PANICS.]

GRIFFIN, BENJAMIN.—One of the chiefs in the Actuarial Department of the *Mutual* of N. Y. He (with Mr. Lewis C. Lawton) prepared in 1873, 2nd ed. of *Life Table, with Appropriate Formulas for the Solution of Questions pertaining to Life Contingencies*. An important work, based upon the *American Experience* T.

GRIFFIN, EDWARD.—Was "Office Sec." of *Sun F.* in 1820. This designation was applied by way of distinction, as Mr. Charles Bell Ford was also Sec. of the Co., and at the same time a Director, as some former Secretaries had been.

GRIFFIN, MATTHEW.—A brilliant writer on Ins. topics, and Ed. of *Ins. Age*, N. Y. We acknowledge courtesies received.

GRIFFIN, MR.—District Manager for *Brit. Empire Mut.* in Bristol for many years. He commenced for the office as local agent at Dursley, and afterwards at Stroud.

GRIFFIN, ROBERT.—Pub. 1775: *Tables of Int. on an Improved Plan; showing by Inspection the Legal Rate of Int. on any Sum from £1 to £1000, and from £1000 to £10,000, from 1 Day to 30 Days; with some Specialties adapted to the Trade of the East India Co.*

GRIFFITH, CHARLES F.—Was Gen. Man. of *S. Provincial* from 1845 down to 1868. He had previously been Sec. of *Hercules*, and was orig. trained to the bus. in the *S. Union*.

GRIFFITH, E. C.—Became Sec. of West End (Lond.) branch of *Life Asso. of Scot.* in 1866. He had previously been connected with the *British Mut.*

GRIFFITH, FRANK.—Resident Sec. of *City of Glasgow Life* in Manchester. He had been previously for some years in the London office of the Co.

GRIFFITH, THOMAS HENRY.—For some years Accountant in the *Star Life*, was called to the Bar in 1857.

GRILLET, M.—A French Mathematician, towards the close of the 17th century invented a Calculating Machine. [CALCULATING MACHINES.]

GRIMES, JOHN RALPH.—Sec. of *Economic Life* since 1867. He had not had a previous Ins. training; but his general bus. knowledge speedily fitted him for the duties of his office, and secured him a welcome from the actuarial profession.

GRIMSBY MUTUAL FISHING VESSELS INS. CO., Lim. by Guarantee.—Founded 1872 for mut. ins. of fishing smacks and vessels belonging to members, against total loss. It is constituted as a Co. Lim. by Guar.—each member agreeing to contribute £100 in the event of winding up.

GRIMSHAW, DR. (M.D.)—Regis.-Gen. of Ireland since 1879, when he was appointed successor to the late Dr. Burke. The new appointment was regarded with general satisfaction.

GRIMSTON, EDWARD.—Was for a short time Sec. of London branch of *Guarantee Asso. of Scotland* and the *Scottish Accident Co.* in 1877.

GRINDER'S ASTHMA.—Every year some deaths are regis. from this cause. In 1865 they were 8; in 1866, also 8; in 1867, 6. They mostly occur between 35 and 65. [OCCUPATIONS.]

GRINDER'S ROT.—A popular designation given to the chest diseases or consumption resulting to metal grinders from their occupation.

GRINDING TRADES (METAL), INJURIOUS EFFECTS OF. See OCCUPATIONS. [METAL GRINDERS.]

GRINSTED, JOHN.—For some years Accountant in the Lond. Office of the *Royal*, and a man of very considerable ability. In 1853 he had an important correspondence with the *National Provident* on the subject of Nomineeship policies; which correspondence was afterwards pub. in pamphlet form. It was he who for some years prepared the clever condensations of the accounts of Ins. Asso., and also of the returns of Fire Ins. Duty, which appeared in the City art. of the *Times* newspaper. He died in 1868 in poverty and obscurity, and the cause of his death might too truly have been classed "Alcoholism."

GRIPE—The fore-foot of a ship. *To Gripe*, the tendency of a ship to bring her head up to the wind when carrying sail on the wind.

GRIPES.—On shipboard the apparatus of ropes, hooks, etc., by which boats are fastened to the upper deck during stormy weather.

"GRIPING IN THE GUTS."—An expression, or cause of death frequently found in the early Bills of Mort.—signifying Dysentery.

GRIPPE—A French term applied to various epidemic forms of gastro-bronchitis. It is used by Laennec to denote an epidemic catarrh, which occurred in 1803, and which was characterized by the peculiar *glutinous* sputa observed in acute pneumonia.—*Hoblyn*.

GRISAR, J. LAURENT.—Was for some years representative of several English Ins. Cos. in *Paris*. Previously he had been a Marine Ins. Broker in *Marseilles*. He has now retired to his beautiful estate on the Rhine (Coblentz), enjoying the respect of a large circle of friends.

GRIST, HUBERT GEORGE, F.S.S.—Gen. Man. of *General Provident* (No. 2) in 1865. He did not remain long in office.

GRISWOLD, JEREMIAH.—Adjuster of Fire Losses and General Agent, New York, has pub. the following works on Ins. :

1868.—*Hand-Book of Adjustment of Loss or Damage by Fire for the Use of Fire Underwriters*. The author says :

In the preparation of the work the aim has been to reach the more important facts appertaining to adjustments in the fire branch, and present them in the form in which they are generally accepted as the ruling of the Courts, or as well-recognized usage among underwriters; for which purpose every available source of information bearing upon the subject has been consulted, and the results digested in a popular form as concisely as due perspicuity and the limits of such a work would admit.

It is a very useful, practical, production. A 2nd ed., "revised and enlarged," was pub. in 1877.

In 1872 he pub. : *The Fire Underwriter's Text-Book*—a work of very considerable merit, and containing a wide range of practical, as well as interesting information. The author says in the preface :

Fire underwriting, numbering the years of existence by centuries, and ranking as a science, fails to embrace a single work of the comprehensive general character so urgently needed by the profession; so that what the practical fire underwriter of the present day knows of his bus. is wholly the result of his own observation and of hard-earned experience: unassisted either by theory or the recorded experience of others, beyond a few elementary treatises and digests of the laws of fire ins., which, unaided by a knowledge of the underlying general principles of the subject, tend rather to mislead than to enlighten. The logical result is apparent in the great diversity of opinion and practice so prevalent, where all should be uniformity and certainty.

We quote from the work under many other heads in these pages. [FIRE INS., HIST. OF.]

1874.—*Classification of Fire Hazards and Losses*. This is a book of prepared pages, with printed headings, designed for classifying the losses of Fire Ins. in such a manner that the writing of certain classes, or any class, of risk for a given year, or over a series of years, may be tested as to its pecuniary results. Such a work has become a necessity in a well-regulated Fire Office; and many of the Fire Offices of the U.S. use this one. It is pub. by Mr. Hine, of the *Ins. Monitor*.

1880.—*Cancellation Tables*. This work, which is strongly bound and suited for permanent use, consists of 50 pages of T. and other valuable information connected with the subject, printed in red and black. The T. comprise computed cancellations of prems. from 1 cent up indefinitely; from 1 day to 5 years; showing both earned and unearned prems.—the latter in red figures—whether long-term or short-term, pro rata or short ratios; by days, months, or years.

Mr. Griswold has also been a constant writer for the Ins. press, on practical topics. He first entered the field of Fire Underwriting in 1856, and has been a steady labourer in the same field, nearly ever since. We trust his services may be liberally appreciated.

GROCERS, MORT. OF.—See OCCUPATIONS.

GROCERS' RISKS (FIRE).—These come under the "Shop Tariffs." If no petroleum be kept, they pass at the normal rate, with a warranty "that no petroleum, or other mineral oil, or liquid product thereof, be deposited or kept for sale on the premises."

If there be petroleum on the premises a higher rate is charged, and a further warranty comes into force, "No petroleum or other mineral oil, or liquid product thereof, giving off an inflammable vapour under 100° Fahrenheit, be deposited or kept for sale on the premises." The retail dealing in mineral oils for illuminating purposes has led to numerous fires; hence these protective clauses.—*Ins. Agent.*

GRODECK, HERR C. A.—Pub. in Dantzig, 1848: *Entwurf eines Gesetzes über Havarien Versicherungen gegen Sea- und Stromgefahr und Bodmereien und Motive dazu.* [MARINE INS.]

GROENEWEGEN, SIMON.—A famous Dutch author in the 17th century, who wrote *De Legibus abrogatis et inusitatis in Hollandia, vicinisque regionibus*, wherein he treated of Naval Captures, Prizes, etc.

GROSS NEGLIGENCE.—See NEGLIGENCE, ITS INFLUENCE UPON INS. CONTRACTS.

GROSS PREMIUM VALUATION.—A technical term used to express a mode of actuarial valuation of the assets of Life Offices wherein the whole of the prem. (therefore including the "loading" for expenses) is brought into account, as against the "Net" system of valuation, which excludes the loading.—See LOADING; NET PREM. VALUATIONS; SURPLUS; VALUATIONS.

GROSS WEIGHT.—In Commerce, the weight of goods with that of the dust and dross, or of the cask, etc., in which they may be contained. Out of this weight the allowance is made for tare and tret.

GROTIUS [OR DE GROOT], HUGO.—An eminent scholar and statesman, born at Delft in Holland in 1583. He pub. in 1625 his great work *De Jure Belli ac Pacis*. In 1682 an English translation was pub. under the title: *The Rights of War and Peace*. In this work arise many considerations affecting Marine Ins. One of the best English eds. is the fo. ed. of 1738, with the large notes of Barbeyrac. We have had occasion to refer to this work in the progress of these pages. It has been justly said that no legal treatise ever enjoyed a more widely extended reputation, and none certainly ever exercised a more wonderful influence over the public morals of Europe.

An excellent edition of this work in two volumes was published in Amsterdam in the year 1750. [HOLLAND.]

His treatise *Mare Liberum*, and the part which he took in the controversy regarding the Sovereignty of the Ocean, will be referred to under SEA, JURISDICTION OF THE.

GROULT, M.—Pub. in Breslau, 1782: *Discours sur le Droit Maritime ancien, moderne, François et étranger, civil et militaire, et sur la manière de l'étudier.* Another ed. was pub. in Paris, 1786.

GROUND RENT.—A periodical payment in respect of land granted under building leases. Ground rents have long offered a very popular mode of investment. They frequently realize 25 years' purchase, or more. In Scotland they are designated Feu-Duty.

The orig. idea of *Fire Ins.* seems to have been designed in view of protecting the Ground Rent—see FIRE INS., HIST. OF, 1638, and again 1680. The prem. was to be 6d. for each £1 of ground rent.

The increase in the value of property in the City of London is indicated very much by the increase of the ground rents. In the 17th century many, perhaps most, of the houses in Cheapside were held at ground rents of £10. The ground rent in respect of one of these same houses is now £2000 p.a.!

The subject will again fall for consideration under LEASES; RENT GUARANTEE; TITLES, INS. OF.

GROUND TACKLE.—The name applied on board ship to all the ropes, etc., connected with the anchors or other mooring apparatus.

GROWING CROPS, INS. OF.—We do not know precisely at what date the Ins. of Growing Crops against Fire came into practice in Gt. Britain. The risk is not included under FARMING STOCK POL., but has to be made specifically. [FARMING STOCK INS.]

The introduction of railways has greatly increased the risk of burning of growing crops in their vicinity; and the Railway Cos. are held not to be liable for the damage in ordinary circumstances. See LOCOMOTIVE ENGINES, FIRES CAUSED BY.

The Ins. Office founded in Rotterdam in 1720 undertook the ins. against fire of the plantations in Suriname against devastations from the Indians; and we assume growing crops were included.

GROWING EXPOSURES.—A term applied in the U.S. to a fire risk which has become surrounded with other risks, some of which are of a hazardous character. The *Ins. Monitor* of N.Y. says hereon: "Pol. that have been running several years are in danger of having hazards added to them which were not contemplated when the original rate of prem. was agreed upon. These need surveying at least once a year, if in a town which is improving."

GRÜN, M.—Avocat, Paris, pub. in that city jointly with M. Joliat, in 1828: *Traité des Assurances Terrestres et de l'Assurance sur la Vie des Hommes, suivi d'un Appendice renfermant les Statutes des principales Compagnies Françaises et étrangères.* A work of considerable interest.

In 1830, M. Grün commenced with M. Joliat the pub. of the *Journal des Assurances*, etc. The publication was continued for some years.

GRUT, NICHOLAS.—Was Act. and Sec. of *Palladium* Life in the earlier years of that office, and enjoyed considerable reputation in his profession. [EDINBURGH LIFE.]

GRUT, NICHOLAS, JUN.—Was Act. of *S. Union* in 1842.

GUANO (PERUVIAN).—Guano appears under certain conditions to be combustible. In the 3rd vol. of the *Builder* there is the following statement: "The barque *Ann*, of Sunderland, returning from Ichaboe, laden with guano, got aground on Hasborough Sand; and shipping some salt water, which found its way among the guano, caused almost instantaneous combustion." [COMBUSTION, SPONTANEOUS.]

Moore, in his *Fires, their Causes, Prevention, and Extinction* (N. Y. 1877), says (p. 77):

It is claimed that buildings have been set on fire by spontaneous ignition of the guano of pigeons or other birds; and certainly some fires attributed to this cause seem to be more easily explainable on this hypothesis than any other.

In some of our maritime ports there are special sheds for the storage of guano.

GUANO CARGOES.—Guano-laden ships have from time to time proved to be very bad risks for underwriters. We suspect losses of this class very frequently arise from the fact that old vessels are employed in the trade. There is, however, another reason, and this is, that the vessels are exposed while lading, as also while waiting for their cargo, to the influence of an almost tropical sun, which has the effect of starting the decks, and prob. some of the ribs of the vessels, and so rendering the ships less "taut" and seaworthy than is desirable. It is to be hoped that the provisions of the Merchant Shipping Act, 1876, may speedily be brought to bear upon vessels engaged in this trade.

GUARAUA.—The *Paullinia sorbilis*, a South American tree, yielding seeds which, when pounded, made into cakes and dried in the sun, form Guaraua bread. Guaraua is extensively used in Brazil, Guatemala, Costa Rica, and other parts of S. America, as a nervous stimulant and restorative, and also as a material for making a refreshing beverage.—*Brande*.

GUARANTEE ASSO. OF SCOTLAND, LIM.—Founded in Edinburgh in 1873, with an authorized cap. of £100,000, in 10,000 shares of £10.

The prosp. said: "The *Guarantee Asso. of Scotland* has been formed for the purpose of guar. the fidelity or honesty of persons holding, or about to be appointed to situations of responsibility and trust, when security is required for their intramissions. . . . The promoters of the present Asso. believe that, with the growing mercantile importance of the country, the formation of another Fidelity Office is urgently called for. The bus. of the Asso. will embrace every recent improvement, and care will be taken by the directors to exclude from their system of ins. many of those obstructive details which, without securing greater accuracy, seldom fail to put insurers to much inconvenience."

Mr. John Bryce, a well-known Ins. Agent in Edinburgh, was understood to be the founder of the Co.; and its operations have been successful.

Mr. F. A. Bringloe is the present Manager.

GUARANTEE BUSINESS (FIRE).—See RE-INSURANCE (FIRE).

GUARANTEE FUND.—Mutual Ins. Offices, for whatever class of bus. designed—other than *Mut. Ins. Clubs*—usually have a guarantee fund in view of protecting the operations of early years, and giving confidence to pol.-holders.

Occasionally we have seen the term "Guarantee Fund" used in the sense of Life Fund, or Reserve Fund; but as the Finance of Ins. becomes more generally understood, the importance of correct definitions will become apparent.

In some recent cases the term "Guarantee Fund" has been used simply as a delusion and a snare. See title GUARANTEED CAPITAL.

[FIRE INS., FINANCE OF.] [LIFE FUND.] [LIFE INS., FINANCE OF.] [MARINE INS., FINANCE OF.] [RESERVE FUND.]

GUARANTEE INS.—The form of Ins. thus usually designated, in modern times, is that of *Fidelity* Ins., which we have treated very fully under that title. The origin of the name in connexion with that branch of bus. is sufficiently obvious. But the word "guarantee" has really no sufficiently distinctive signification as applied to any one branch of Ins., and for the simple reason that *all* ins. contracts partake of the nature of guarantees—guarantees for compensation, or indemnity, within certain limits, on the happening of certain specified events.

While all contracts of ins. are thus seen to embody the principle of guarantee, it must (and this, notwithstanding what we have already said) be admitted that those branches of Ins. which have been designed to obviate the necessity of personal suretyship in relation to the performance of personal trusts, and fiduciary obligations, fall nearest within the designation. But a greater difficulty here arises—there are so many of these which have become the subject of Ins.

The following is an enumeration of all the more prominent of these branches, with an indication of the titles under which they have been or will be treated:

1. Bargains, the Performance of. [BARGAINS, INS. OF.] [TRADE INS. ASSO.]
2. Building Society Ins. [BUILDING SO. INS.] [LOAN GUARANTEE.]
3. Contracts, Performance of. [CONTRACTS, INS. DUE PERFORMANCE OF.]
4. Copyhold Ins. [LEASES.] [TITLES, INS. OF.]
5. Debtors, Ins. of. [COMMERCIAL CREDIT INS.] [TRADE INS. PROJECTS.]

6. Defective Titles. [TITLES, INS. OF.] [MORTGAGE INS.]
7. Dividends, Payment of. [RENT INS.] [SECURITIES, GUARANTEE OF.]
8. Fidelity of Employés. [FIDELITY INS.] [ROBBERY, INS. AGAINST.]
9. Fiscal Duties, Payment of. [DUTIES, INS. TO EVADE PAYMENT OF.] [MALT TAX.]
10. Ground Rents, Payment of. [RENT INS.] [TITLES, INS. OF.]
11. Issue, Ins. Against. [ISSUE INS.] [TITLES, INS. OF.]
12. Judgment Debts. [JUDGMENT DEBTS, INS. PAYMENT OF.]
13. Leasehold Ins. [LEASES.] [TITLES, INS. OF.]
14. Lifehold Ins. [LEASES FOR LIVES.] [TITLES, INS. OF.]
15. Loans, Guaranteeing Repayment of. [LOAN GUARANTEE.] [MORTGAGE INS.]
16. Money, Safe Transmission of. [INLAND TRANSPORT.] [MONEY, INS. OF.]
17. Mortgage Securities. [MORTGAGE INS.] [RENT GUARANTEE.] [TITLES, INS. OF.]
18. Property, Protection of. [PROPERTY PROTECTION INS.]
19. Rents, Payment of. [RENT GUARANTEE.] [TITLES, INS. OF.]
20. Securities, Payment of Dividends on. [MORTGAGE INS.] [RENT GUARANTEE.] [TITLES, INS. OF.]
21. Trade Protection. [COMMERCIAL CREDIT INS.]

It may be remarked that several of the applications of Ins. here enumerated, or similar thereto, were attempted to be carried out during the era of the South Sea mania, nearly 170 years ago.

Thus there was then projected a Co. for indemnifying Masters and Mistresses from Robberies by Servants, which we have already spoken of under FIDELITY INS. And there was at the same period a scheme for indemnifying Travellers against loss of Life and Property by Highwaymen.

Again, there was another project of the same date, and of an analogous character, viz. a Co. for Preventing and Suppressing Thieves and Robbers, and for Insuring all persons' goods from the same. This was announced as being at "Coopers," and as having a (proposed) cap. of £2,000,000.

Then also there was a Co. for the Ins. of Debts; and a rival to the same at Robin's, with a cap. (intended to be raised) of £2,000,000. These last, perhaps, relate more particularly to Solvency Guarantee.

Insurances against Lying, against Death by drinking Geneva, to secure Female Chastity, or against Divorces, constitute an outside class not understood in the present day.

See also title CASUALTY INS. ; GAMBLING INS. ; INS. WAGERS ; MERCANTILE GUARANTEE.

GUARANTEE, LIMITED BY.—See LIMITED BY GUARANTEE.

GUARANTEE So., THE.—Founded in 1840, with an authorized cap. of £500,000, in 25,000 shares of £20, "for providing undeniable security for persons of unblemished reputation, in all situations of trust where sureties are required, on payment of a moderate ann. prem. by way of assurance."

This was a pioneer Asso. in a new branch of Ins. bus., which has now assumed considerable importance, and everything connected with its history is of special interest. Under title FIDELITY INS., we have already given a detailed account of the founding and working of the bus. ; hence we confine ourselves here simply to the affairs of this Co. An early, if not the orig. prosp. is before us, from which we draw the following para. :

This So. has been formed for the purpose of obviating the difficulty which has at all times been experienced by parties (although possessing unblemished reputation) seeking engagements as secretaries, agents, clerks, and other employments of a responsible nature, when required to find security for the punctual discharge of their duties.

The public will more readily appreciate the benefits offered by the So., in considering it under the following points of view, namely—1. Its advantage to the community in general. 2. Its tendency to promote commercial stability and security. 3. The prospect which it holds out of making a fair return of profit for the cap. embarked.

Each of these heads is then enlarged upon. Then the following :

Considerable pains have been taken to acquire a knowledge of the average amount of defalcation in the various public and private inst. and banking houses, both in Lond. and the provinces, whereby an average has been obtained, upon which the Directors place a confident reliance. . . .

Those who have been engaged in promoting the formation of this So. feel no hesitation in affirming that they did so with the wish of serving others. This was their primary object, and they felt a confidence in favour of its benevolent character and promised utility. But, on further inquiry, they have reason to conclude that its extent will become of much greater magnitude and importance than at the outset was supposed; and that in the course of a very short period its operations will be fully as beneficially and widely diffused as those of fire and life offices have proved to be. They therefore invite subscribers with confidence; and while they repudiate all speculation, they feel that the Inst. cannot fail to promote the interests of the shareholders.

In 1842 the Co. obtained a special Act of Parl.—5 & 6 Vict. c. lxiv.—*An Act for regulating Legal Proceedings by and against the Guarantee So., and for granting certain Powers thereto*; the provisions of which have already been reviewed under FIDELITY INS.

Mr. Thos. Dodgson was the first Sec. of the Co.

The Co. has realized the fullest expectations of its founders; for besides being of the greatest possible advantage to the thousands for whom it has stood financial sponsor, it has reaped advantageous results for its shareholders.

There is one excellent feature in its working which should commend it to the provident. The prem. is reduced 20 p.c. on the 6th ann. payment, an additional 30 p.c. after the 12th, and a further abatement is made of 25 p.c. after the 18th payment—making a deduction of 75 p.c., and thus leaving only one-fourth of the orig. prem. to be paid in future.

Mr. James Muzio skilfully conducted the affairs of this Co. from 1851 down to 1879, when he was succeeded by his son, Mr. Augustus Muzio.

GUARANTEE SURPLUS FUND.—A special fund created by Fire Ins. Cos., under the law of the State of New York passed in 1874, of which we have given a full outline under FIRE INS., FINANCE OF.

GUARANTEED BONUSES.—Several life offices have adopted the principle, at different times, of guaranteeing a fixed rate of bonus return upon their parti. pol. The two more prominent instances which occur to us are—1. The *Eagle*, which has a special class of pol.-holders entitled to a specific rate of reduction of premis. No new pol. of this class are now issued. 2. The *Liverpool and London*, which for many years guaranteed a certain minimum rate of bonus add. Of this we shall give full details in our hist. of that Co.

The objection to the principle is that the bonus return must over a series of years prove either too much or too little. The question will fall to be discussed in some detail under SURPLUS, DISTRIBUTION OF.

GUARANTEED CAPITAL.—Within the last ten years it has come into practice for Ins. Offices of various classes to obtain what is called Guaranteed Cap. The process is this: instead of the cap. being subs. on shares in the usual manner, a certain number of persons are found who will lend their notes of hand, or give a Guarantee Bond, conditioned to pay at certain specified times, if required, certain sums in respect thereof; or, in the case of the promissory notes, to take up certain of the same on the funds being required. In the mean time a certain guaranteed rate of int., say 2 or 3 p.c. as may be agreed, is paid for the use of the guarantee—plus int. at a higher rate on the sums paid up.

We believe the first Ins. Office which adopted this mode of finance was the *Mutual Fire* of Manchester, founded 1870; and there was an obvious reason in this case, inasmuch as the Asso. was mut., and the bus. transacted was of a selected class carried on for the benefit of its members. But it is certain that such a system of Ins. finance was capable of much abuse; and that result was not long in being realised.

We cannot attempt to enumerate all the offices which have been floated upon this system; nor is it necessary to do so: for the plan is already about played out. The *British National* Ins. Asso.; the *Indemnity* Fire; and lastly the *Northern Counties* of England, have spread ruin amongst those who were induced to lend their name and credit to the system. In the mean time the orig. Asso. [*Mutual Fire*] has abandoned the method, and became a properly constituted Lim. Liability Co.

1876.—The case of *Jones v. Gladstone* was before the English Courts—the following being the short facts:—The action was brought to recover a call under a deed made between the plts. for and on behalf of the *British National* Ins. Asso., and a number of persons, of whom the defendant, a doctor in the North of England, was one. The deft. denied his liability, on the ground that the call was not properly made. The Asso. was a Co. regis. under the Joint-Stock Cos. Acts. The Co. wished to raise add. capital to the amount of £100,000, and at extraordinary general meetings passed and confirmed a special resolution that the Directors should be at liberty to supplement the cap. of the Co. by a deed of guarantee. Acting on this resolution, the plts., as Directors, made the deed in question, by which the Asso. undertook to pay to the several signatories 2½ p.c. on the sums set opposite their respective names, and an add. 5 p.c. on any sums they might actually advance. The deft. signed for £2000. The signatories, on their part, undertook to pay such sums not exceeding the sums set opposite their names, as might be from time to time required and called for “by the corporation.” In consequence of this the Directors made the call sued for, and the question was whether it ought not to have been made by extraordinary general meetings of the Co. The Court *held*, that this call of the Directors was properly made, and gave judgment for the plaintiffs on both demurrers.

1880.—In the case of the *Indemnity* Fire the pol.-holders have been held to be contributors in respect of the guaranteed cap. of that Co. As, however, this decision is based upon the circumstances peculiar to that Co., and may yet be appealed against, it will be convenient to defer details until we give the history of the Co.

It has been an additional inducement to promoters to seek the aid of the “Guaranteed Cap.,” inasmuch as the registration fee is not increased by reason of it, as is the case with ordinary share cap.

[INDEMNITY FIRE.] [MUTUAL INS. ASSO.] [POL.-HOLDERS, LIABILITY OF.]

GUARANTEED RATE OF INTEREST.—The French Life Ins. Cos. guarantee to their pol.-holders that their premis. shall be accumulated at the rate of 4 p.c. p.a. If the Co. should not realize so much, the loss would then fall on the proprietors. If (as usual) the Co. realizes more, then the pol.-holders reap the benefit, inasmuch as they share in half the profits. [FRANCE, sub.-heading *Life Ins. Practice*.]

GUARANTEED SECURITIES ASSO. LIM.—Founded in 1867, for the purpose of guaranteeing securities. The authorized cap. was £1,000,000, in shares of £10. The founder of the Co. was Mr. J. G. T. Child. The subscribers were men of wealth and influence. The idea was that of enabling trustees and others to hold shares in Joint-Stock Cos. by reason of this Co. having given its undertaking that an agreed rate of dividend should be paid, and that no calls should be made upon the shares for at least an agreed period. The proposed Co. would make its profit by charging a small rate of commission annually for such guarantee. The project fell upon uncongenial times; and it never commenced to transact bus.

GUARANTEED SURRENDER VALUES.—Most Life Offices now undertake to give surrender values on parti. life pol., at a certain fixed rate, after the pol. have been a certain number of years in force. The entire question will be considered under SURRENDER VALUES. [LAPSED POL.]

GUARANTEES.—Fire Ins. pol. issued by way of re-insurance are frequently designated "Guarantees."—See RE-INSURANCE, FIRE.

GUARDSHIP.—In a British port, a large ship of war on harbour duty, appointed to protect the ships lying unarmed in the port.

GUARDA COSTAS.—The designation of the fleet of ships of war and privateers, which, under pretext of guarding the coast of Spain, committed great ravages upon the commerce of Gt. Brit. early in the last century, and had the effect of sending up Marine Ins. prems. considerably.

GUARDIAN OF CHILDREN.—See INSURABLE INTEREST.

GUARDIAN FIRE AND LIFE ASSU. CO.—Founded in 1821, with a cap. of £2,000,000, in 20,000 shares of £100, "for Ins. against Fire, and on Lives and Survivorships, Endowments for Children, Immediate, Deferred and Progressive Annu.; and for the purchase and sale of Reversions and Annu." The cap. was not all subs. in the first instance, as will appear from what follows.

This Co. appears to have been founded to a very large extent by the private bankers of London; and its shares seem to have been subscribed through the same channel, and not by the medium of an appeal to the public.

Proposals.—The original "Proposals" for founding this Office contain a few points only for special note:

1. No person was to hold more than 50 shares. 2. Whenever the profits and accumulations, with the sums actually paid up, should amount to £100 per share, then the shareholders should not be liable for any further payments. 3. The accounts of the Fire Department were to be kept separate. 4. *A Committee consisting of shareholders in each city or town should be annually appointed by the Directors, with whom they could communicate respecting the interests of the Inst.*

Deed of Settlement.—The D. of Sett. bears date 17 Dec. 1821, and recites:

Whereas the several persons parties to these presents being impressed with the conviction that estate for effecting ins. against fire and assu. upon lives and survivorships, and other risks and contingencies, and for granting annu. and endow. for children, and other provisions, have been productive of the most beneficial results to the public, and that the advantages arising therefrom may be still further increased and extended by combining these objects in one Inst. upon principles embracing a wider range of utility, affording the most liberal parti. of profits, and protecting the assu. from the delays and expenses incident to the litigation of disputed claims, did lately agree to form and establish a Co. or Asso. under the name or style, etc.

It further recites that a subs. had been made of 12,525 shares of £100—equal to £1,252,500 of cap.—which sum might be eventually increased. A house—No. 11, Lombard Street, the present offices of the Co.—had been purchased as a head or principal place of bus. A Deed of Sett. had been read and approved, of which such clauses as contain anything peculiar to the Co.'s bus., or may otherwise be regarded as of interest, will here be noticed. The business might be extended to every part of the U. K., its Colonies or Dependencies, or other parts beyond the seas (sec. 2). It was to be a fundamental principle of the Co. that the funds alone were to be liable for all claims and demands, and not the proprietors individually (5). Qualification for seat at board 25 shares, held at least six months (14). Directors might regulate their own proceedings in points unprovided for by Deed (26). Rates and terms of ins. to be settled by Directors, but no sum exceeding £5000 to be taken on any one life (48) [increased to £10,000, 1856]. Proprietors might effect pol. on same terms as strangers (49). All pol. to contain limited liability clause (51). Then (59):

That in case of any sudden increase of deaths by the prevalence of the plague or any contagious or epidemic disorder, or by famine, invasion, riot, insurrection, or civil war; or in case of any sudden increase of fires by invasion, riot, insurrection, or civil war; it shall be lawful for the general or extraordinary Court of Directors to defer the payment of the whole or any part of the sums to become payable during the prevalence or continuance of such plague or other contagious or epidemic disorder, famine, invasion, riot, insurrection, or civil war, upon any pol. or policies granted by any of the Directors of the Co., until such time as an adequate supply for the payment thereof can be obtained out of the funds of the Co.

Sums so suspended to bear interest (60). Disputed claims on pol. to be referred to arbitration (61). Then (69):

That the produce of the prems. and profits to arise and be received upon or in respect of pol. of ins. against loss by fire to be granted by any Directors of the Co., and the improvement and accumulation

thereof, shall be denominated the "Fire Ins. Fund"; and the produce of prems. and profit to arise and be received upon or in respect of pol. of assu. upon lives and survivorships to be granted by the Co., and the improvement and accumulation thereof, shall be denominated the "Life Assu. Fund"; and the produce of prems. and profits to arise and be received from the sale and purchase of annu., and from endow. for widows and children, and the other provisions to be made or granted by the Co., and the improvement and accumulation thereof, shall be denominated "The Annu. Fund"; and that separate and distinct accounts shall be kept, and separate and distinct investments made, of the respective prems., profits, and produce constituting the same several Funds respectively, and of the several matters relating thereto respectively.

The Funds of each department to be primarily liable to the losses and expenses of the depart. (70). Cap. and funds to accumulate until 25 Dec. 1828, without any dividend being paid (71). Div. on cap. might be paid in 1829, not exceeding 5 p.c., but not so as to reduce cap. (72). First actuarial investigation in June, 1829 (up to end of 1828), to consist of "a succinct, clear, and faithful exposition of the state of the affairs of the Co., with reference to all its several objects and pursuits."

And the real value of all the property of the Co., and the real value of the risks, claims, and demands to which the Co. may be in anywise subject or liable, and all such other particulars as the general Court of Directors shall think necessary or proper for enabling the persons to whom such general account shall be submitted, to form a just estimate and opinion of the real state of the affairs of the Co.; and 14 at least of the Directors for the time being shall certify under their hands at the foot of such account whether, after making ample provision for all existing and contingent risks, claims, and demands to which the property of the Co. may be subject, there remains such a surplus of the Fire Ins. Fund, Life Assu. Fund, and Annu. Fund respectively as will justify any division of profits, and if any to what extent; and which general account shall be submitted by the chairman of the then next annual general meeting of proprietors to the consideration of such meeting, and if 14 at least of the Directors shall certify in favour of a division, and if two-thirds in number, comprising not less than 50 of the proprietors present at such meeting, shall be of opinion that a division of profits to the extent recommended by the certificate of the Directors, or to any greater or less extent, may be made, then a dividend of profits shall be declared and made accordingly (see 73).

An ann. dividend on the Fire Ins. Fund might be declared after 1829 (74), and septennial or other periodical div. on Life Ins. and Assu. Funds after that date (75) [see 1850]. Portion of profits from different funds to be added to paid-up cap. (76). A "Bonus or Appropriated Fund" to be estab. (78). When cap. by bonus add. is paid up to par value of shares, no further calls to be made (80). Gen. Court to fix remuneration of the Directors (83). No further calls on shares until cap. should be found inadequate to demands (88). No proprietor to hold more than 50 shares (91). Trans. of shares may be made after Directors have certified their approbation of transferee (94). Gen. meetings may make, repeal, or alter laws (112). Then (113):

That in case the Co. shall at any time, in the opinion of the major part of the Directors for the time being, be in a doubtful state with respect to its prosperity, an extraordinary general meeting of proprietors shall be forthwith convened, for the purpose of investigating the actual condition and state thereof; and it shall at such meeting be considered and determined whether any and what further call and demand shall be made upon the members of the Co. for increasing the cap. stock thereof, or whether the Co., or any department thereof, shall be discontinued or dissolved, and when and in what manner such discontinuance or dissolution shall take place, or what other measures shall be adopted.

Disputes between members to be settled by the opinion of counsel (117).

The striking features in the preceding Deed are first the care to guard against emergencies, and promote the estab. of a solid Inst.; but if any misfortune should arise, then that the proprietors were to be at once made aware of it. There was to be no concealment in any shape. Happily the Co. has gone on in one steady line of prosperity, the degree of progress varying of course with time, season, and circumstance. It is further clear that no one branch of the bus. was to be allowed to pull down the other.

Supplemental Deed.—A Supplemental Deed, dated 26 July, 1822, was prepared for the creation of 7475 add. shares—making the full cap. up to £2,000,000, in 20,000 shares of £100.

Capital and Accumulations.—Ten per cent. of the capital, or £200,000, was paid up and invested. For the first 7 years no dividend was paid; at the end of that time the accruing dividend was added to the £200,000, and that with the profits on the Fire and Life bus. brought up the amount to £400,000—or just double. For the next seven years 5 p. cent. was paid on the last-named sum; and the profits on the Life and Fire bus. during the period were capitalized, and so the orig. £200,000 now reached £550,000. That was up to the end of 1835. In 1841 this sum had increased to £600,000. We believe we are right in saying that the cap. fund now stands at £1,000,000. This is a marked, but by no means a solitary instance of skilful financing in connexion with Ins. Asso.

Traditions.—There are two floating traditions regarding this Co., which may be noted in their historical connexion—the one, that so secret were the affairs of the Co. regarded at its inception that a printing press was actually erected in the house of the Co. for the purpose of printing its D. of Sett., in order that no copies might fall into other hands than those of the proprietors and leading officials. Such a course of action (if true) would be very likely to defeat its own ends; and certain it is that so-called copies of this Deed were at one period offered for large sums of money because they were deemed so exclusive. The other is, that Mr. Gompertz was refused the appointment of Actuary of this Co. "because he was a Jew." For details of this circumstance, and the events which flowed from it, see GOMPERTZ, BENJAMIN.

The appointment of Mr. Griffith Davies to the post of Actuary of the Co. turned out to be in every way satisfactory. [DAVIES, GRIFFITH.] As did also that of Mr. James Sumner, the Fire Supt., who was a man of very decided mark in his day and generation.

Mr. Wm. Williams was the first "Clerk to the Board of Directors," *i.e.* Sec.

1824.—Fire Duty.—At this date the Co. collected Fire Ins. Duty to the amount of £24,758—which ranked No. 7 in amount amongst the London Fire Offices.

1827.—Businesses taken over.—The bus. of the *Commercial Ins. Co.* of Dublin (founded 1779) was trans. to this Co. this year, prob. by way of making a foundation for a branch bus. in that country. The bus. taken over was believed not to be large (see 1862-3).

Mr. Geo. Keys became Sec. of the Co.

1841.—The Co. still stood No. 7 among the London Fire Offices as to duty collected, the amount being £33,324.

1850.—Special Act of Parl.—There was enacted the 13 & 14 Vict. c. xxv.—*An Act for better enabling the Guardian Fire and Life Assu. Co. to sue and be sued, and to alter certain Provisions of their D. of Sett., and to give further Powers to the Co.* It was provided that (sec. 7) a Director or the Sec. of the Co., notwithstanding that they might be plaintiffs or defendants, might be competent witnesses. There was a remedy for members who might be sued otherwise than under the powers of this Act (14). Proprietors and pol.-holders might inspect list of shareholders at the office of the Co. (16). Memorial of names of Sec., Trustees and Directors to be enrolled in Chancery, pursuant to 5 & 6 Wm. IV. c. 62 (17). Regulations as to investment of moneys of the Co. (21). Powers as to purchase of pol. in other Cos. (22). Regulations as to valuing securities (24). Lords of manors to be entitled to "Fines" on copyhold estates of the Co. on change of trustees (30). Powers to grant pol. on such terms as to parti. in profits as Directors might determine (31). Resolutions of 1829 as to appropriation of profits, etc., confirmed (33).

New Rules.—The 75th Art. of the Deed was this year repealed, and it was resolved that the actuarial valuation be made every 5th year. It was resolved that life pol. issued after 11 Oct. 1850 parti. in *four-fifths* of profits.

1855.—Mr. Saml. Brown became Act. for the Life Depart. vice Mr. Griffith Davies deceased; and remained in the position down to his death in 1875.

1856.—It was resolved by an extraordinary gen. meeting that the sum to be insured on any life be extended to £10,000. Mr. Delvally became Superintendent of Fire branch.

1861.—The Co. now stood No. 10 in the amount of Fire Ins. Duty collected by the London Offices—the amount being £34,487.

1862.—The Co. took over the bus. of the *Promoter Life* (founded 1826), and which was understood to be considerable.

1863.—The Co. took over the bus. of the *Westminster So.*, which had been founded as far back as 1792; but had been gradually dying out for some time previously.

This year, power was taken from an extraordinary gen. meeting for the Directors to authorize foreign agents to sign fire pol.

1866.—Special Act (No. 2).—There was enacted the 29 & 30 Vict. c. ccxxv.—*An Act to enable the Guardian Fire and Life Assu. Co. to reduce the Amount of their Paid-up Subscription Cap., and to alter certain Provisions of their D. of Sett.; and to amend the Guardian Assu. Co.'s Act, 1850; and to give further Powers to the Co. and the Directors thereof.* By it (sec. 2) the Co. had power to reduce its paid-up cap. to £250,000. This power was taken in view of increasing the proportion of profits given to parti. pol.-holders from *one-half* to *four-fifths* (sec. 4). The consent in writing of Life and Fire pol.-holders required for reduction of cap. (7). Power given to purchase other Ins. Cos. (8). A Director may hold any number of shares in the Co. (9). Directors might provide a common seal (13). And all documents sealed to be deemed executed by the authority of Directors (16). Co. not to be exempted from operation of any general acts (19).

New Rules.—The regulations as to Directors were altered by gen. meeting. The board might now consist of any number not less than 10 or more than 20; and every Director elected after the paid-up cap. of the Co. had been reduced to £500,000 was to hold 40 shares at least. Fresh powers were taken as to investments, and powers taken to make investments or deposits in connexion with foreign branches. Further powers as to purchasing or acquiring the bus. of other Cos.

1870.—New Rules.—Power was given to pay proprietors by way of bonus one-fifth share of life profits; and in that case the pol.-holders of the old series [after 1850] were to parti. to the same extent. The profits of the *Annu.* Fund were to be paid to the proprietors as bonus; also profits of *Fire* Fund. Powers were taken to set apart a special fund for payment of claims of pol.-holders who had not assented to reduction of paid-up cap. Powers to invest moneys abroad for carrying on bus. of Co. there.

1872.—The Co. this year founded a fire branch in the U.S., and made the required deposits. Mr. F. H. Carter, formerly Sec. of the *North American Fire*, was appointed Manager. On his death (by drowning) in 1876, Mr. H. E. Bowers, previously the Agent of the Co. in Boston, was selected to the appointment of chief representative in the U.S.

That the branch has been a success is seen from the following return, which indicates not large returns, but profitable results—the figures represent dollars :

Year.	Assets in U.S.	Income.	Expenditure.	Prem.	Losses.
1872	\$389,798	\$43,692	\$11,047	\$39,511	...
1873	436,269	105,961	55,096	104,838	35,673
1874	694,404	137,343	40,721	121,169	14,662
1875	763,765	126,597	47,356	89,446	12,695
1876	773,305	138,583	102,812	102,678	40,091
1877	818,146	172,791	91,757	140,257	30,422
1878	885,364	190,091	132,587	152,702	58,401
1879	861,973	240,416	241,712	200,366	152,131
Aggregates ...		\$1,201,460	723,088	996,942	344,075

1873.—Mr. Marsden was appointed superintendent of Fire Department.

1874.—The actuarial rep. to end of this year furnished the following important details regarding the Co.:

	No.	Sum Insured.
Pol. issued from 1821 to Christmas, 1874.....	14,527	£14,713,490
Claims by death	No. 5248	£5,755,736
Surrendered	„ 2124	2,434,197
Lapsed, Expired, etc.	„ 3170	2,306,298
	10,542	10,496,231

Pol. in force (inclusive of Bonus) at Christmas, 1874 3,985 4,217,259

1875.—It was resolved that interim dividends might be declared.

Mr. T. G. C. Brown was appointed Act. of Life Department, and Sec. of Co.

1878.—The Rep. for the year ending 31 Dec. gave the following details: In Life depart. new pol. were issued insuring £239,046, and the total amount of assu. in force, including bonuses, was £4,228,936. The fire prem. for the same period were £258,220, being an increase of £31,342 over 1877, while the losses were £131,144. After increasing the fire prem. reserve fund by £20,200, and the general reserve fund by £28,000, thus raising them to £116,200 and £256,000 respectively, a dividend and bonus were declared for the year at 6½ p.c. on the paid-up cap. of £1,000,000. Claims by death on life pol. amounted to £146,382, including bonuses; and the total income of that depart. was £179,300. The Life Fund now stood at £1,416,211.

1879.—The usual quinquennial valuation of the liabilities of the life department, as at 31st December, was made according to the Institute of Actuaries' (HM) T. of Mort. [*Experience T. No. 2*], and 3 p.c. int., the net prem. only being valued. Of the resulting surplus of £140,000, £28,000 was credited to the proprietors' account, and £112,000 was divisible among participating pol.-holders in respect of ins. for £2,939,986, the ann. prem. payable under which amount to £83,262. The mode of distribution had been altered from that pursued on previous investigations on a method believed to be "just and expedient." The rate of int. realized upon the life fund during the last 5 years had averaged £4 10s. 1d. p.c. The expenses of management had averaged 12/34 p.c. on the prem. income. The fire prem. for the year were stated to be £249,358, and the losses £155,433. The prem. reserve fund to cover unexpired pol. stood at £112,200, and the fire general reserve fund has been increased to £280,000 A div. and bonus were declared for the year of £4 10s. p. share, or 9 p.c. on the paid-up cap.

The following T. shows the leading facts connected with the financial progress of the life bus. from the early years of the Co. downwards. No further evidence of the solid and successful character of the Inst. is needed :

Year.	No. of New Pals. issued in the preceding 5 yrs.	Insuring.	No. of Pals. in force.	Sums Assu. and Bonus addition.	Life Funds.	Surplus Distributed.	Claims Paid in 5 years.
1828	...	...	2562	3,420,964	...	125,486	...
1835	...	...	3672	4,419,288	...	252,846	...
1842	...	...	4079	4,552,744	...	277,414	...
1849	...	...	3976	4,390,419	1,520,960	316,240	...
1854	975	767,965	4052	4,494,370	1,671,535	178,064	639,369
1859	1045	1,189,350	4044	4,586,124	1,706,069	186,696	710,274
1864	855	927,397	4399	4,754,250	1,656,803	100,926	926,792
1869	857	897,746	4094	4,441,804	1,534,460	134,807	882,809
1874	1057	876,910	3985	4,217,259	1,580,111	160,000	770,552
1879	1818	1,262,657	4514	4,171,439	1,426,138	140,000	891,964

The total Life claims paid by the Co. up to the end of 1879 were 5837, for £6,643,700. No higher testimony of the value of the Co. need be offered.

GUARDIAN AND GENERAL INS. CO. LIM.—Founded in 1880, with an authorized cap. of £50,000, in shares of £1, for the purpose of insuring (1) horses, cattle, live-stock, and animals of every description, against injury, disease, and death, and to carry on and conduct this bus. in all its branches; (2) carriages, carts, waggons, and all other conveyances or vehicles whatsoever, whether public or private, rolling stock on railways and tramways, marine engines, agricultural implements, engines, and other like property, against accidental injury, damage, and destruction; (3) persons against death, injury, or damage arising from or caused by accident; (4) property against loss or damage by fire; (5) ships and craft of any kind against loss or damage from perils of the sea, rivers, or canals; (6) indemnify owners of horses and vehicles against claims or losses for accidental injury done by them to other horses, carriages, and drivers; (7) to re-insure all such risks; (8) many other objects, such as dealing in cattle, rolling stock, etc., are provided for.

The primary object of the Co. was to take over the bus. of (1) the *Guardian Horse and Vehicle*, (2) of the *London and County*.

The Man. of the Co. is Mr. Ernest H. Wilson. [HORSES, INS. OF.]

At the moment of going to press, there is before the Court of Chancery a motion for injunction, at the suit of the *Guardian F. and L.*, to restrain this Co. from using the word "Guardian" as any part of its title—an absurd proposition. It is arranged that the future title of the Co. shall be the *Guardian Horse, Vehicle and General Ins. Co.* [25 June, 1880]. See following title.

GUARDIAN HORSE AND VEHICLE ASSU. ASSO. LIM.—Founded in 1877, with an authorized cap. of £50,000, in shares of £1, and a guarantee fund of £50,000 also, for the purpose of insuring horses, vehicles, implements, engines, etc. [HORSE INS.] Mr. Geo. Myers was the founder and Man. Director of this Co.

In 1880 the bus. was amalg. with that of the *Guardian and General Horse*, etc.

GUARDIAN PLATE GLASS INS. CO. LIM.—Founded in Manchester in 1863, with an authorized cap. of £25,000, in shares of £1. The bus. of the Co. has been carried on with enterprise and success. In 1865 the Co. issued 2966 pol., and its ann. income was nearly £3000. It has continued to progress; and some details concerning it have been given under title *GLASS INS.*

GUBERNATOR (from the Latin).—A pilot or steersman.

GUERNSEY MUTUAL FIRE INS. SO.—Founded in 1871. The So. advertised that up to 31 Oct. 1873, it had effected ins. to the amount of £180,000, and was adding £10,000 per quarter. In 1875 the bus. had reached £350,000; but in 1876 it receded to £280,000. The bus. is limited mainly to household risks, and hence may succeed even with small figures.

GUERRAND, MONS. J.—See *ELOY* and *GUERRAND*.

GUIDON DE LA MER, LE (or *Us et Coutumes de la Mer*).—A code of Sea Laws in use in France from a very early date. This publication is frequently referred to in the present work; it is found in the collection of marine regulations pub. at Bordeaux in 1647, and at Rouen in 1671. It was originally composed for the use of the merchants of Rouen, prob. early in the 15th century, and contains a very complete exposition of the practice of Marine Ins. at the date of its compilation. The name of its author is not known. It was edited by Cleirac prior to publication in 1671. Mr. Justice Park says: "But of all the sources from which modern French legislation could derive the most essential information, the famous treatise *Le Guidon* was the chief."

Its author, in explaining the contract or pol. of ins., has inserted much on other maritime contracts, so that he has omitted nothing except his name, which would have kept him in remembrance, and preserved him the honour which he deserves for having so much obliged his own country, and all other nations of Europe. But as it is the ordinary result of the best productions to contract faults and obliterations from time, and that principally from the want of care, or the small intelligence of copiers and correctors of impressions, so this work had become so cut up with errors, faults of omission, and transpositions, that it was disregarded like a diamond in the rough, and quite obscure and unrecognizable.—*Cleirac*.

Mr. Reddie, in his famous *Historical View of the Law of Maritime Commerce* (1841, pp. 341-3), says:

But the common law contained in the *Roles d'Oleron* in time required supplements, especially in consequence of the intro. of the contract of ins., which, according to an Edict of 1556, appears to have taken place in the French commerce upon the ocean at the commencement of the 16th century. And there was compiled at Rouen, under the title of *Guidon de la Mer*, a body of maritime usages chiefly applicable to Ins. and Bottomry. There is no occasion to inquire whether or not the *Guidon de la Mer* is to be considered as a law, or even as a Coutume, compiled through the intervention, or with the approbation of public authority. What is obscure in this respect, with reference to the *Roles d'Oleron*, is indisputable with regard to the *Guidon de la Mer*, which has evidently been composed by a private individual. It is to be regretted that the name of the author has not been transmitted to us, as he merited an honourable place among those men who have the most contributed to the improvement and diffusion of the knowledge of maritime law. The supposition of Valin, in ascribing the compilation to Cleirac, appears to be quite erroneous. It is incontestable that the *Guidon de la Mer* was composed and pub. in France; the adv. which precedes it, and the title which it bears, in all the eds. places the fact beyond doubt. The time of the compilation is not so well known; but it could not be posterior to 1607, since the dedication of the ed. of that year announces that the work was printed of new; and from a comparison of different documents M. Pardessus concludes it may have been composed during the last years of the 16th century. . . .

But the *Guidon* never acquired such authority in foreign parts as the *Roles d'Oleron*; and the reason is obvious. The *Roles d'Oleron*, as the first monument of Marine Law in that part of Europe, was borrowed from France by the neighbouring less advanced nations as a set of rules to guide them in their nautical operations and transactions. When the *Guidon* was compiled, all the neighbouring commercial countries had laws and customs pretty fully developed; the *Guidon* merely collected these regulations, and, in particular, is only a commentary on those estab. in the Low Countries in 1551 and 1563 relative to ins., and never had any authority out of France.

The subject will be further considered under SEA LAWS. [FRANCE, sub-heading *Marine Ins.*]

GUILD, JAMES WYLLIE.—Pub. 1850: *The Plea for Life Ins.* See LIFE INS., ADVANTAGES OF, this date.

GUILD OF LITERATURE AND ART.—In 1851 there was issued in pamphlet form a *Prosp. of a New Endowment in Connexion with an Ins. Co. for the Benefit of Men of Letters and Artists*, wherein occur the following passages:

It is proposed to open at a Life Office of acknowledged respectability and cap. a branch Ins. and Provident So., solely for the Professors of Literature and Art.

Within the former term are understood to be comprehended all writers of either sex, of orig. works or dramas, or of not less than 20 papers in periodicals. [Note. This limitation is intended to exclude accidental contributors to periodicals, who may not be attached to literature as a profession.] Within the latter all Painters and Sculptors who make the fine arts their profession, and all Students of the Royal Academy of England, Scotland, or Ireland.

This So. will embrace the several objects which the members of a profession may be the most disposed to secure—such as Life Ins. at rates of prem. calculated as payable either for the whole term of life, or as altogether ceasing to be payable at a certain age; annu. to commence at a certain age; pensions to widows; payments destined to the education or provision of children, etc.

We believe the scheme, of which this is but a brief outline, did not mature.

GUINET, M.—Avocat à la Cour d'Appel de Paris, pub. about 1850, a "Memoire," wherein he discussed with ability the question of Insurable Interest. [INSURABLE INT.]

GULF-STREAM.—Under title EUROPE, we have referred to the influence of the Gulf-stream in moderating the temperature of this country, and of other portions of Western Europe.

The subject is directly or indirectly considered under other heads, as CLIMATE, SEASONS, TEMPERATURE, etc., etc.

In 1859 Dr. James Stark, M.D., then Medical Officer of the Scottish Regis.-General's Department, pub. a work *On the Temperature of the Sea around the Coasts of Scotland, during the Years 1857 and 1858, and the Bearing of the Facts on the Theory that the Mild Climate of Gt. Brit. during Winter is dependent on the Gulf-stream.*

GUMERSALL, J. B.—Pub. 18—: *Discount or Simple Interest at the several Rates of 5, 4½, 4, 3½, 3 and 2½ p.c. from 1 to 365 Days, and from £1 to £20,000; that the Int. or Discount of any Sum for any Number of Days, at any of the above Rates, may be obtained by the Inspection of one Page only, each Rate occupies 80 Pages, the last 5 of which are devoted to the same Number of Pounds from 1 to 11 Months, and from 1 to 10 Years; to which are added T. of Brokerage or Commission. The whole accompanied by a Time T., being altogether a vast Improvement on Thomson and others.*

Sixth ed. "warranted free from error," 1841.

GUM-RASH.—The name of some species of strophulus—the red, the white, and the pallid. [STROPHULUS.]

GUN ACCIDENTS.—See GUN-SHOT ACCIDENTS. [VIOLENT DEATHS.]

GUN-COTTON—A highly-explosive and inflammable substance, discovered in 1846 by Prof. Schönbein, of Basle. Some accidents said to be owing to spontaneous explosion caused its use to be discontinued in Austria. In 1847 Messrs. Hall commenced its manufacture at Faversham, but an explosion caused the manufacture to be abandoned. In 1864 it was manufactured by Messrs. Prentice at Stowmarket (Suffolk). On 6 Sept. 1871, an explosion occurred at their works, by which 24 persons (including 2 members of the firm) were killed and about 60 wounded; while the town of Stowmarket was destroyed, as if by a bombardment. The cause of this explosion was found to be the surreptitious add. of sulphuric acid after it had passed the Gov. tests. This was believed to have been accomplished by workmen in the interest of other manufacturers. Gun-cotton is now usually stored in a wet condition; but it has been shown that even in this condition it is capable of being exploded. [EXPLOSIONS.] [EXPLOSIVE SUBSTANCES.]

GUNN, ALEXANDER.—Formerly of Hull, and afterwards of London. He was a promoter, or projector, of many Ins. Asso., some of which we proceed to enumerate, with the date of promotion as nearly as can be ascertained: *London and Yorkshire Ins. Co.* (1858); *Anglo-French Marine* (1859); *London and Provincial Exchange Marine* (1860); *Anglo and Provincial Marine* (1860); *Mercantile Marine* (1860); *London and Lancashire F. and L.* (1861); *Oriental and General Marine* (1861); *City of London and General Ins. Co.* (1863); *Oriental and General Marine* (1864); *Ins. Corp. of Gt. Brit.* (1865); *United Ports* (1868). We believe he some years since retired from the bus.

GUNN, NIEL B., F.F.A.—In the *S. Provident* since 1874. In 1875 he read a paper before the Actuarial So. of Edin. on *The Life Assu. Cos. Act, 1870*; in which the various provisions of the Act were criticized, and several points suggested on which, in the author's opinion, amendments were desirable.

Mr. Gunn was trained to Ins. bus. in the *S. Widows*, which office he entered about 1868. He was Sec. to the Faculty of Act. for a period of 3 years. He has contributed various articles to the Ins. press.

GUNPOWDER.—As an agent continuously employed in the direct destruction of the human race, gunpowder would claim some notice in these pages; and that aspect of its use will be considered under **MILITARY OPERATIONS, DEATHS RESULTING FROM**; as also under **WARFARE**, and some of the sub-headings there to be given. But gunpowder leads indirectly to consequences more important to Ins. Asso. than those resulting from its direct use. An Ins. Asso. can either accept or reject war risks, and when accepted charge such a prem. as may be deemed sufficient to cover the risk it undertakes. The *indirect* consequences—from the very circumstance of their being indirect—cannot be made the subject of exact estimate, but have to be encountered as part of the general risk of Fire Ins.—except so far as the conditions of the pol. may be shaped to their exclusion; and manifold are the forms in which they arise.

Under title **EXPLOSIONS**, sub-heading *Gunpowder*, we have already introduced the consideration of the question to our readers. We now have to follow it out; confining ourselves mainly to the Ins. aspect.

The invention of gunpowder in Europe is generally fixed in 1320; but against this it has to be remembered that Roger Bacon distinctly mentions its composition, and he died not later than 1294. It was not used in military operations by the English until 1346. The Chinese and the Hindoos are said to have known the art centuries earlier; but Elliot's note *On the Early Use of Gunpowder in India* (1876) gives no intimation of this as to the latter. Hallam thinks there is no doubt that gunpowder was introduced by the Saracens into Europe. English war gunpowder is composed of 75 parts nitrate of potash (saltpetre); 15 sulphur; 15 carbon. These proportions may be slightly varied.

Hallam (*Hist. of the Middle Ages*, vol. i. p. 340) has the following comprehensive passage upon the effect gunpowder has produced on the human race:

Meanwhile a discovery accidentally made, perhaps in some remote age and distant region, and whose importance was but slowly perceived by Europe, had prepared the way not only for a change in her military system, but for political effects still more extensive. If we consider gunpowder as an instrument of human destruction, incalculably more powerful than any that skill had devised or accident had presented before: acquiring, as experience shows us, a more sanguinary dominion in every succeeding age, and borrowing all the progressive resources of science and civilization for the extermination of mankind, we shall be appalled at the future prospects of the species, and feel perhaps in no other instance so much difficulty in reconciling the mysterious dispensation with the benevolent order of Providence. As the great security for estab. governments, the surest preservation against popular tumult, it assumes a more equivocal character, depending upon the solution of a doubtful problem—whether the sum of general happiness has lost more in the last three centuries through arbitrary power, than it has gained through regular police and suppression of disorder.

There are some further passages upon the subject which will repay perusal.

1640.—We need go no further back prob. than the Act of this year—the 16 Charles I. c. 21—*An Act for the Free Bringing in of Gunpowder and Saltpetre from Foreign Parts and for the Free Making of Gunpowder in this Realm*—which recites:

Whereas the importation of gunpowder from foreign parts hath of late times been against law prohibited, and the making thereof within this realm ingrossed, whereby the price of gunpowder hath been excessively raised, many powder works decayed, this kingdom very much weakened and endangered, the merchants thereof much dammed, many mariners and others taken prisoners and brought into miserable captivity and slavery, many ships taken by Turkish and other pirates, and many other inconveniences have from thence ensued, and more are likely to ensue, if they be not timely prevented.

Hence, liberty was given to all, to import gunpowder, or make and sell it.

1667.—The Fire Ordin. of the City of Lond. passed this year contained the following: xvii. Item. That no Gunpowder be kept within the walls of the City (except as aforesaid) but in such secure places as shall be allowed and approved by the Court of Aldermen.

The exception was in regard to stores of powder to be kept ready for blowing up buildings, in view of staying the progress of fire.

1697.—The 9 & 10 Wm. III. passed this year prohibited the throwing or firing of *Fireworks*, and has been fully reviewed under title **FIREWORKS**, as have various other Acts not here particularized.

1700.—It was about this date that the use of gunpowder was first employed in this country in the blasting operations of mineral mining: but it had been so employed for at least a century previously in Germany. This gradually led to a large and increasing consumption. See 1836 and 1872.

1715.—There occurred on 13 Jan. this year a serious fire in Thames St. (London), at the house of an oilman, who was making fireworks in preparation for the King's coming to St. Paul's. The house blew up, and in the end more than 100 houses were consumed. [FIRE, GT., this date.] Soon afterwards, the action of Parl. was invoked, and there was pub. on a broad-sheet, *Reasons, etc.*:

REASONS HUMBL Y OFFER'D For the BILL to prevent the Mischiefs which may happen by keeping too great Quantities of Gun-powder, in or near the Cities of London and Westminster, and the Suburbs thereof.

THIS Bill is to restrain the Quantities of Gun-powder to be kept by private Persons, within limited distance from the Tower, the Royal Palace at St. James's, or any Magazine for Gun-powder belonging to the Crown.

It is surprising to think what prodigious Quantities of Gun-powder are kept in and about London, and what Carelessness there is of it.

THE Number of Ware-houses and Store-houses, for this Use, Daily increases; in the Parish of Wapping there are Two and Twenty of these Ware-houses, Six of which are within Twelve Yards of

Dwelling-houses, and but a small distance from the *Victualing-Office* for the Royal Navy; and these Six Ware-houses are computed to hold Thirteen Hundred Barrels, Three of them are contiguous to a Rope-yard, and a House used for melting Tar, which sometimes boils over, and had lately set the House on Fire, had it not been prevented by a meer Accident, without which these Powder-houses must have been blown up; for No-body would have given their Assistance, because of the Danger; and these Three Ware-houses alone, are computed to hold above a Thousand Barrels: Also there are Nine Ware-houses more very near *Broad-Street* in *Wapping*, and others but Twenty Yards from other Houses and these will contain above Four Thousand Seven Hundred Barrels: These Ware-houses thus crowded together, are computed to hold above Seven Thousand Barrels of Gun-powder; and there is very often from above Two Hundred to more than Four Hundred Barrels together in a House.

The Inhabitants of this and the Neighbouring Parishes, are in continual Apprehensions of being destroyed; the Carelessness of Work-men is very dangerous; they have been found Working with Iron Hammers, and driving Nails in the midst of these great Quantities of Gun-powder, when it has lain scattered upon the Floors like Sand! besides, by the frequent carrying Gun-powder to and from these Places, entire Trains have been made of great length, into dangerous Places; and if by any Accident any such Train should take Fire, the Magazines must blow up, and great Numbers of People, and their Families, be destroyed.

The Dangers too from Lightning are very terrible, these Ware-houses being covered only with Pan-Tiles, which are almost always out of Repair; and when Fires happen, it is known the burning Flakes fly high, and a great Way.

BARGES lie frequently at Wharfs, with Three or Four Hundred Barrels of Gun-powder at a Time uncovered and unguarded, and Labourers and Lighter-men have been seen smoking Tobacco among them.

It is known, that the Dealers in Gun-powder constantly keep very great and dangerous Quantities in all Parts of the Town.

The late dreadful Fire in *Thames-Street*, was occasioned by the blowing up of but one single Barrel.

The dangers from these vast Quantities of Gun-powder are inexpressible; they are proved to be very dangerous to the *Tower*, to His Majesty's *Victualing-Office*, and to other Publick Offices; Multitudes of Families must inevitably perish by any of the Accidents before-mentioned; and when Accidental Fires have happened in the Neighbourhood, all Persons run from these Places instead of giving the usual Assistance on such sad Occasions.

THESE Dangers are Publick and Self-evident: It is humbly hoped, they shall be no longer endured; and that the great Mischiefs which may happen from them shall be prevented.

The measure was not carried through the House until several years had elapsed.

1718.—There was enacted 5 Geo. I. c. 26—*An Act for Preventing the Mischiefs which may Happen by Keeping too great Quantities of Gunpowder in or near the Cities of London and Westminster or the Suburbs thereof*—which recites:

Whereas great quantities of gunpowder are frequently lodged and kept in warehouses and other places in and about the cities of Lond. and Westminster, and the suburbs thereof, to the apparent Danger, if not utter Ruin and Destruction of several public offices, and of the Lives and Fortunes of many thousands of H.M.'s subjects.

It is then enacted that after 1 Aug. 1719, there should not be kept more than 600 lbs. of Gunpowder, etc., in any storehouse, etc., in London or Westminster, within three miles of H. M.'s Palace at St. James's; nor was more than 2000 lbs. to be carried at any one time through the streets of London (sec. 4). Provisions were made for the erection of warehouses on the marsh lands of Essex and Kent—to which circumstance may be traced the Waltham Powder Mills; the Dartford, the Faversham Mills, and prob. some others. (See 1724.)

1724.—By 11 Geo. I. c. 23—*An Act for making more efficient an Act*, etc. [the Act of 1718]—it is recited:

... And whereas since the making of the said Act many dealers in gunpowder and others have divided their houses and warehouses into several small partitions or apartments, and there keep great quantities of gunpowder, whereby and by other evil and indirect means and practices the good designs of the said Act are notoriously eluded and evaded, to the apparent danger of several public offices, etc.: And whereas it is necessary for public safety to lessen the quantity of gunpowder allowed by the said Act to be kept within the limits aforesaid, and it is also requisite to make the said Act more effectual.

It was therefore enacted that after 1 June, 1725, no person should keep more than 200lbs. of gunpowder in one place in London or Westminster, etc., for more than 24 hours. There were powers of search, etc. Act not to affect any magazine belonging to the Crown. See 1732.

1732.—There was enacted 5 Geo. II. c. 20—*An Act for the better Regulation and Gov. of Pilots licensed by the Corp. of Trinity House of Deptford Strand, in the County of Kent, and to Prevent Mischiefs and Annoyances upon the River of Thames below London Bridge*—by sec. 2 of which it is enacted that no gunpowder shall be put on board ship above Blackwall; and by sec. 3, inward-bound ships were to land their powder before arriving at Blackwall. (See 1742.)

1742.—By 15 Geo. II. c. 32—*An Act for Preventing the Mischiefs which may Happen by keeping Dangerous Quantities of Gunpowder in or near the Cities of London and Westminster*, it is recited as follows:

... And whereas the dealers in gunpowder continue to keep within the limits aforesaid as large and dangerous quantities as they used to do before the making and passing of the said Acts, evading and eluding the same, either by disposing of such gunpowder under divers roofs, or in places not described by the said stat., or by taking advantage of the difficulty of proving the same to have been kept 24 hours under the same roof, or by some other device or craft; and although the Justices of the Peace authorized by the said Acts have authority to cause dangerous quantities of gunpowder to be removed out of the limits aforesaid, yet there being no power given for detaining the same when removed, and the property not being divested, the owners or proprietors thereof can immediately after such removal demand the same again. . . .

It was therefore enacted that persons not dealers were to keep but 50lbs. of powder, and dealers 200lbs., longer than 24 hours; nor on the Thames except in ships, etc., passing and repassing, or detained by tides.

1749.—There was now enacted a measure intended to apply to provincial towns also, viz. 22 Geo. II. c. 38—*An Act to Prevent the Mischiefs which may Happen by Keeping too great Quantities of Gunpowder in any one Place, or Carrying too great Quantities of Gunpowder together from one Place to another*—which recited: "Whereas great quantities of gunpowder are frequently lodged in warehouses, or other edifices within and near to cities and market towns, to the apparent danger of the lives and fortunes of many thousands of H.M.'s subjects." It is then enacted that no person keep for more than 24 hours above 400lbs. weight of gunpowder near any city, market town, nor within 2 miles of any of H.M.'s palaces, or within 1 mile of any of the King's magazines for keeping powder; nor above 3000lbs. weight in any place. No greater quantity than 25 cwt. to be carried at any one time in any land carriage, nor greater than 50 cwt. in any open vessel; and the carriages to be covered and the barrels closely hooped. Quarter Sessions might appoint ground for erection of warehouses for gunpowder.

1756.—An Act of this year—29 Geo. II. c. 16—related to prohibiting the export of gunpowder and saltpetre, and the carrying it coastwise.

1771.—There was enacted the 11 Geo. III. c. 35—*An Act for Reducing into One Act of Parl. the several Laws relating to the Keeping and Carriage of Gunpowder, and for more effectually preventing Mischiefs by Keeping or Carrying too great Quantities*—which recited:

Whereas the several Acts which regulate the keeping and carriage of gunpowder within England are defective and require amendment, and the reducing them into one law would facilitate their execution: And whereas there is, at present, no provision for regulation of the keeping and carriage of gunpowder in *Scotland*.

And there was enacted certain consolidated regulations; but as these again were repealed and in part re-enacted in the following session, we will not dwell upon them here.

1772.—There was enacted 12 Geo. III. c. 61—*An Act to Regulate the Making, Keeping, and Carriage of Gunpowder within Gt. Brit. ; and to repeal the Laws heretofore made for any of those Purposes*—which recited:

Whereas the manufacture of gunpowder within Gt. Brit., though necessary to be encouraged in respect of the value of gunpowder as an article of defence and commerce, yet ought to be regulated by law, in order to prevent the great mischiefs which may arise from explosions occasioned by the improper construction and use of the mills, engines, and buildings, employed in the making of gunpowder, and for keeping and carrying gunpowder in too great quantities, or in an improper manner: And whereas an Act passed in the last Session of Parl. intituled, etc. . . . contains no provision for regulating the making of gunpowder, and is in other respects defective, on which account it may be convenient to repeal the said Act, and in the room thereof to have a new law for regulating as well the making as the keeping and carriage of gunpowder.

It was then enacted (sec. 1) that no persons manufacture gunpowder except in mills where it is carried on at the passing hereof without a licence for that purpose. No person hereafter to use a Pestle Mill (2). Not exceeding 40 lbs. to be made at any one time under a single pair of mill stones (3). Not exceeding 40 cwt. to be dried at one time (6). No greater quantity than necessary for immediate use to be kept in any drying house (7). Sufficient magazines remote from the mill to be provided (8). Dealers not to keep more than 200 lbs. at any one time (11). For use of mines 300 lbs. might be kept (12). Justices to appoint proper ground for erecting magazines (16). No greater quantity than 25 barrels to be conveyed by land at one time, or 200 barrels by water (18). Persons smoking on board vessels laden with powder to forfeit £5 (20). Justices to issue warrants to search for gunpowder made contrary to this Act (23). Regulations for security of vessels in the River Thames (24). Act not to extend to mills to be erected on H.M.'s lands. nor to mills now erected (29). Not to hinder unlimited quantities to be conveyed from ships below Blackwall (30).

This Act remained in active force until 1860.

1773.—There was enacted 13 Geo. III. c. 13—*An Act to enable certain Persons therein named to continue to Work a Pestle Mill, heretofore employed and used in making Battle Gunpowder at Old Forge Farm, in the Parish of Tonbridge, in the County of Kent*.

1793.—The 33 Geo. III. c. 2, passed this year, gave power to prevent the exportation of Gunpowder, etc., by Proclamation or Order in Council.

1825.—The prosp. of the *Union F.* Office issued this year contained the following: "N.B.—If more than 10 lbs. weight of gunpowder shall be at any time deposited in the premises insured, or wherein any goods are insured, then no benefit or advantage in case of loss shall be derived from any such ins."

1831.—In the American case of *Duncan v. Sun Fire*, the pol. gave permission to keep extra-hazardous goods: and after the enumeration of such goods and trades there followed the words: "Gunpowder is not insurable except by special agreement." Held: 1. That by a true construction of the pol., the insured had a right to keep gunpowder without annulling his pol.; but that not having specially insured it, he could not recover for the item of gunpowder. 2. If gunpowder is "stored" in a building insured contrary to a prohibition in the pol., though without the knowledge of the insured, it vitiates the pol. (6 Wendell 488.)

1836.—At this date it was estimated that fully 300 tons (of 2000 lbs. each) of gunpowder was annually used in the copper mines of Cornwall, which at £44 per ton gave a cost of £13,200.

1850.—Attention was drawn to the fatal consequences which might result to the town and shipping of Liverpool from the storage in a magazine, “within a mile and a quarter of the docks,” of 16,767 barrels or 721 tons of gunpowder—a quantity far larger, it was said, than had ever been accumulated previously in any one spot. These magazines it was said were not even protected by a lightning conductor. It further appeared that about 40,000 barrels were delivered yearly from these magazines to boats on the river for shipment to various parts of the world. The Gov. considered it rested with the Town Council to provide proper store-houses for the gunpowder required as an article of commerce at the port. (See 1865.)

1852.—In the American case of *Scripture v. Lowell Mut. Ins. Co.*, it was held, that an ins. against “loss or damage by fire” includes a loss caused partly by an explosion of gunpowder on the premises, and partly by burning. [10 Cush. Mass. 356.]

This case has been cited in more detail under EXPLOSIONS, sub-heading *Gunpowder*; where will be found some other cases not here again quoted.

1860.—There was enacted the 23 & 24 Vict. c. 139—*An Act to Amend the Law concerning the Making, Keeping, and Carriage of Gunpowder, and Compositions of an Explosive Nature, and Concerning the Manufacture, Sale, and Use of Fireworks*. This measure we have also reviewed in some detail under EXPLOSIVE SUBSTANCES. The regulations regarding making and keeping gunpowder are very detailed, and will be found in sec. 2.

This Act was amended by 24 & 25 Vict. c. 130, in 1861; and again by 25 & 26 Vict. c. 98, in 1862. (See 1875.)

In the case of *M'Ewan v. Guthridge*, before the English Courts this year, the facts were these: Among the conditions contained in a fire pol. it was provided that the pol. should be void if at any time there were more than 56 lbs. weight of gunpowder on the premises, unless specially provided for in the pol. The premises were used for general trade, and the insured sold gunpowder; but no special licence had been given to the insured to keep more than the ordinary limit on the premises. *Held*, that the condition limiting the amount of gunpowder was not unreasonable, and was not discharged by the specification of the stock-in-trade (including hazardous goods) in the pol. (13 Moore, P.C.C. 304.)

1863.—In the English case of *Beacon Life and Fire Assu. Co. v. Gibb*, the short facts were these: A pol. against fire had been effected on a ship. The pol. contained a proviso to the effect that the ins. thereby made should be subject to the several conditions therein expressed, so far as the same were or should be applicable. One of these conditions (all of which were primarily intended to apply to the ins. of houses and buildings, and were in the form used for that purpose) provided that if more than 20 lbs. weight of gunpowder should be “on the premises” at the time when any loss happened, such loss would not be made good. *Held*, that the proviso was applicable to a ship insured. (7 L.T. N.S. 574.)

1864.—Under the Lond. and St. Katherine's Dock Act of this year, 27 & 28 Vict. c. 178 (local and personal), will be found detailed provisions empowering the Dock Master to require the immediate removal of combustible and hazardous goods. Provisions are also contained for preventing the introduction of gunpowder or any loaded fire-arms into the docks (s. 123), or the unloading of more than 25 lbs. weight of gunpowder within 200 yards of the docks or any entrances thereof (s. 124).

1865.—There was enacted the *Liverpool Gunpowder Act* (28 & 29 Vict. c. 278, local), whereby authority is vested in the Corp. and Dock and Harbour Board to pass bye-laws respecting the magazines for gunpowder moored in the Mersey, and the mode of conveying gunpowder to and from them, and its storage and conveyance within the borough. It appears that it is the practice for vessels to be moored in the Mersey to serve as magazines, in places appointed by the Commissioners for the time being executing the office of Lord High Admiral.

The *Lottie Sleigh* had exploded in the Mersey, 16 Dec. 1864. See EXPLOSIONS, sub-heading *Gunpowder*.

1872.—There were enacted two measures this year embodying provisions regarding the use of gunpowder: (1) The Coal Mines Regulation Act, 35 & 36 Vict. c. 76; and (2) The Metalliferous Mines Regulation Act, 35 & 36 Vict. c. 77. The questions which may arise out of such legislation, as also the large quantities of gunpowder used in mining operations, was made apparent in an interview which a deputation from the Ironstone Miners Asso. had with the Home Sec. in Nov. 1876: Messrs. Pease raised about 5000 tons of ironstone per day; Messrs. Bolckow and Vaughan, 4000 tons; Bell, Brothers, 3000; Messrs. Fox, 1000; and Mr. Walker, 600 tons—or over four million tons p. a. The provisions of the two Acts were different as to the use of gunpowder in coal mines and metalliferous mines; in the former gunpowder had to be used in cartridges, and in the metalliferous mines it could be used loose. It so happened that the Cleveland ironstone mines occupied an intermediate position between the metalliferous and coal mines, and generated a very small quantity of gas. The Cleveland ironstone miners were

told that they would come under the Metalliferous Mines Act, and consequently they did not look into the clause in the Coal Mines Act stipulating that powder was to be used by cartridges. There had only been one death from an explosion of gas in the Cleveland mines, though there was a much larger quantity of powder used than in coal mines. Messrs. Pease used between 500 and 600 tons of powder in blasting ironstone, and the total consumption in the Cleveland district for that purpose was 1500 tons. Then, again, ironstone miners used it at all times in the day, while the coal miners only used it at the latter part of the day. It was not till November, 1873, or three-quarters of a year after the Act had come into force, that the Cleveland miners were told that they would have to use cartridges. This would cause an increased quantity of powder to be used, and being compelled to blast with powder in cartridges would considerably increase the danger. They wished to continue to use the powder loose, and they therefore asked for relief by a Bill or otherwise. Mr. Cross, in reply, said he should give the matter his full consideration.

1873.—The following case arose under a *Murine* Ins. pol. The *Carron*, sailing from London to Grey Town and Aspinwall, arrived at Grey Town in due course and commenced to discharge; but in doing so it became necessary to move a portion of the cargo, including a number of packages of gunpowder, in order to reach the goods required. The "Protest" states the remainder of the incidents:

... Night setting in with a heavy rolling swell and fierce lightning, which had prevailed for several nights previously, and had now, this night, become most fearful, playing about the vessel; and the master, officers, and crew considered it so dangerous that they were alarmed for the safety of the ship and all on board; and they concluded to throw overboard the gunpowder [temporarily] stowed away in the long-boat on deck; and at 7.30 P.M. they threw overboard 388 packages of gunpowder. Subsequently they proceeded with the discharge of the cargo.

The case was referred to arbitration, and it was determined that the loss was one of General Average.

1875.—There was enacted 38 Vict. c. 17—*An Act to amend the Law with respect to Manufacturing, Keeping, Selling, Carrying, and Importing Gunpowder, Nitro-Glycerine, and other Explosive Substances*. This Act repeals the Acts of 1860-1 and 2, and enacts still more minute regulations. Part I defines the law relating to gunpowder.

This measure may be regarded as in a great degree due to the explosion on the Regent's Canal on 2nd Oct. of preceding year—which cost the Canal Co. £72,718.

1876.—Major V. D. Majendie, R.A., printed *T. of Explosions of Gunpowder recorded as having taken place between 1649 and 1866*, as a contribution towards a complete list. We had at the end of 1874 compiled a list from other sources. [EXPLOSIONS.] We find the two lists very nearly coincide.

1877.—An important case was decided in the U. S. Courts this year—*Cobb v. Ins. Co. of North America*, wherein the following were the short facts: The ins. was upon a country store, and the pol. contained a printed clause as follows: "Gunpowder, saltpetre, phosphorus, petroleum, naphtha, benzine, benzole, or benzine varnish, are positively prohibited from being deposited, stored, or kept, in any building insured, or containing property insured by this pol., unless by special consent in writing indorsed on this pol., naming each article separately." Permission had been given in writing upon the pol. for keeping a limited quantity of coal oil. On a fire occurring it was discovered that there was gunpowder upon the premises; but it was contended by the plt. that this was one of the ordinary articles of stock kept in a country store. It was *Held*, that the insured could not keep gunpowder in any shape or quantity in his store along with his other goods, without the consent of the Ins. Co. in writing, naming such article specially, without violating the terms of his pol.

1878.—The extent to which gunpowder has become an article of commerce is shown in the returns of exports.

Export of Gunpowder.—There has been an increase in the quantity of gunpowder exported this year. In the first 6 months of 1878 the value was £197,335, and in 1877 in the same period £169,770.

[DANGEROUS TRADES.] [DOCKS.] [EXPLOSIONS.] [EXPLOSIVE SUBSTANCES.] [FIRE PROTECTION.] [FIREWORKS.] [GUNPOWDER MAGAZINES.] [LIGHTNING.] [OCCUPATIONS.] [VIOLENT DEATHS.]

GUNPOWDER MAGAZINES.—In the preceding art. we have given references to the various Acts of Parl. relating to the storage of gunpowder, by which it is seen that increasing attention has been very properly bestowed upon the question. Licences are required before gunpowder or other explosive substances can be stored in large quantities. See Act of 1875.

In 1872 experiments were made by the Gov. authorities upon some Fire-proof Powder Magazines constructed by Messrs. Milner & Sons, and the results were stated to be entirely satisfactory. Under title EXPLOSIONS, sub-heading *Gunpowder*, we have given a T. which includes many explosions at gunpowder magazines. Under title LIGHTNING various others will be given.

GUNPOWDER MILLS.—A powder-mill is not in the least like other mills. Instead of one great building, it is composed of many rough-looking little sheds—sometimes as many as seventy or eighty. These are long distances apart, separated by dense woods and great mounds of earth, so that if one "house" is blown up, the others may escape a like fate. Of some the walls are built very strong, and the roofs very slight, in the hope that if an

explosion happens, its force will be expended upward only. Other houses have enormous roofs of masonry covered with earth; the roofs of others are tanks kept always full of water.

The constant danger inseparable from the work would be greatly increased were there not strict rules, always enforced. No cautious visitor can be more careful than the workmen themselves, for they know, if an explosion happens, it will be certain, instant death to them. So no lights or fires are ever allowed: no one lives nearer the mills than can be helped; some of the buildings are carpeted with skins, and the floors of others are kept always flooded with an inch or two of water; and in front of every door is a shallow tank of water. Before entering, every person must put on rubber shoes and walk through this water, for the nails in a boot-heel might strike a spark from a bit of sand or gravel, which might explode a single grain of gunpowder, and cause widespread disaster. So the rubber shoes worn in the mills are never worn elsewhere. Then, too, every one is expected to keep his wits about him; there is never any loud talking and laughter, and no one ever thinks of shouting. Yet with all this extreme care, explosions sometimes occur, and then there is seldom any one left to tell how it happened.—*St. Nicholas.*

See also title GUNPOWDER, dates 1718, 1860, 1875.

GUNPOWDER PLOT.—This plot, designed to destroy at one and the same moment the three estates of the realm—King, Lords, and Commons, by means of a large deposit of gunpowder under the Houses of Parl., was discovered on 4th Nov. 1605. The train was to have been fired on the following day by Guy Faux, a man of some social rank, who afterwards suffered death with other of the conspirators.

This constitutes one of the great events in the hist. of gunpowder, and it caused a profound impression in the nation as being associated with other supposed Roman Catholic plots. Numbers of persons during that century bequeathed sums of money to provide for an ann. commemoration sermon. In the year 1732 there were preached, "Gift Sermons" on November 5th, in the following London churches: 1, All Hallows, Bread Street; 2, St. Mary-le-Bow, Cheapside; 3, St. Andrew Undershaft, Leadenhall Street; 4, St. Bennett at Paul's Wharf, Thames Street; 5, St. George, Botolph Lane; 6, Christ Church, Newgate Street; 7, St. Ethelburga, Bishopsgate Street; 8, St. Catherine Cree Church, Leadenhall Street; 9, St. Mildred, Bread Street; 10, St. Martin, Ludgate Street; 11, St. Botolph, Bishopsgate Street; 12, St. Dunstan's-in-the-West, Fleet Street; 13, St. Sepulchre's, Snow Hill. Are these sermons still preached? And what in the case of the churches already or hereafter to be pulled down? The sermon is still preached in St. Mary-le-Bow; and in 1850 a sermon was preached in St. Paul's—Alderman Farncombe being Lord Mayor. This was prob. a volunteer occasion.

The ins. risk associated with this event in modern times arises from the use of fireworks. [FIREWORKS.]

GUNPOWDER PRIVILEGE.—This is a technical term as applied to Fire Underwriting, used in the U.S. Under it such words as the following are usually inserted in the pol.: "Privilege is hereby granted the insured to keep in store, for sale, not exceeding 25 lbs. of gunpowder in closed tin canister; said gunpowder to be served out by daylight only."

GUNSHOT INJURIES.—The injuries annually resulting from gunshots, accidental and otherwise, are very numerous—their exact extent being impossible of calculation. It is only those which terminate fatally that become aggregated by means of the regis. returns.

Under FIRE ARMS we have given some account of the precautions taken by the legislature in the testing of the barrels of shot-guns from 1813 downwards.

In 1870 the Gun Licence Act imposed an ann. charge of 10s. upon persons carrying fire arms. This tax in the financial year 1871-2 produced £62,437. For the financial year ending 1876 the amount had increased to £76,297—giving the number of guns pretty constantly in use as 152,594.

The Accident Ins. Co. have a considerable, and not altogether favourable, experience of so-called gun accidents—the margin between these and suicide being sometimes very slender. That accidents do happen in the most remarkable manner sometimes is, however, but too clear. Here is a case in point. In Aug. 1876, the farm bailiff at Pain's-Hill House, near Cobham, laid a loaded gun on the top of a corn bin in the stable, and to his great surprise he heard it some time afterwards go off. The gun was fired by a fowl which got upon the trigger, and the contents entered the face of a man named Collis, who happened to be in the stable at the time, inflicting very severe injury and causing the loss of one eye.

It is to be hoped that the use of breech-loaders has and will continue to lessen the liability to such accidents.

But it is in connexion with the mort. of warfare that the greatest interest attaches to gunshot injuries—the greater or less mort. of gunshot wounds determining in a large degree the mort. of military engagements. [MILITARY OPERATIONS, MORT. FROM.]

There is quite a literature relating to the treatment of gunshot wounds, commencing in England in 1563 with the work of Mr. Thomas Gale, Surgeon: *An excellent Treatise of Wounds made with Gunshot; in which is confuted both the gross Error of Jerome of Brun-sicke, John Vigo, Alfonse, Ferrus, and others in that they make the Wound venomous, whiche cometh through the common Powder and Shotte. And also there is set out a perfect and true Methode of Curinge these Woundes*; and ending in 1878 with the following:

Gunshot Injuries: their History, Characteristic Features, Complications and General Treatment. By Surgeon-Gen. T. Longmore, C.B., F.R.C.S. (Longmans). This latter work contains much that is instructive.

From it we learn that one result of the improvement of fire arms has been to diminish considerably the chances of lodgment of bullets in the body. Out of 727 gunshot wounds observed in the hospital of Carlsruhe during the Franco-German War, it was calculated that the bullets had lodged in only 18 p.c. Such wounds, however, are not less dangerous, inasmuch as portions of the clothing and accoutrements usually remain in the track of the bullet, as well as splinters of bone, which act as injuriously as foreign bodies. It is, therefore, very necessary that a careful examination should be made as soon as possible, so that such matters may be removed.

It appears that the pain immediately produced by the passage of a bullet is unusually slight, of which some remarkable instances are given—as that of a bullet going through the neck of a soldier, and killing an officer behind him; the soldier thinking he had only received a scratch from the officer's sword.

The erysipelas, hospital gangrene, and pyæmia, which make such ravages in most campaigns, the author considers to depend frequently upon the bad hygienic conditions in which soldiers are placed before they receive their wounds.

GUNSHOT INJURIES, DEATHS BY (Class, VIOLENT DEATHS; Order, *Accident or Negligence*).

—The deaths regis. under this head in England range under three categories: 1, those from accident or negligence; 2, those inflicted with murderous intent; 3, the result of suicide. Of the first and the last we have specific statistics. The deaths of the first order in ten consecutive years were as follows: 1858, 136; 1859, 104; 1860, 103; 1861, 120; 1862, 111; 1863, 108; 1864, 126; 1865, 112; 1866, 131; 1867, 124. Varying from 7 per million of the pop. in 1858 to 5 in 1863, and 6 in 1867.

Those of the third order (suicide) were in ten consecutive years as follows: 1858, 60; 1859, 64; 1860, 59; 1861, 59; 1862, 54; 1863, 56; 1864, 65; 1865, 58; 1866, 60; 1867, 57; showing an average of 3 deaths per million of the pop.

The ages at death of the first are below those of the third.

GUTHRIE, WM.—Was for some years Sec. of *Clyde Marine*.

GUTTA PERCHA (sometimes called *Gutta Taban*).—The Malayan name of a peculiar variety of the concrete juice of a saponaceous tree, called *Isonandra percha*, growing on the shores of Malacca, Borneo, and the adjacent countries. It is now, and indeed has for some years been, an important article of commerce, and *knows how to burn*!

GUY, WM. A., M.B. CANTAB.—An earnest and life-long worker in the cause of Social Advancement, Sanitary Improvement, and Reformation of the Criminal Classes, with many cognate movements. He has done much to make the labours of Howard, the prison-philanthropist, not only effective but continuous. He has an apt method in the use of statistics to illustrate and enforce his conclusions; and hence he has taken an active part in the proceedings of the Statistical So. of Lond., of which he was one of the very earliest members, and to the *Journ.* of which he has been a considerable contributor. He was for some years Prof. of Forensic Medicine at King's College.

The following is a selection from such of his voluminous writings as bear upon our subject—chiefly papers read before various learned Sos., as briefly indicated in each case:

1839.—He contributed to the *Journ. of Statis. So.* a paper: *On the Value of the Numerical Method as Applied to Science, but especially to Physiology and Medicine* [vol. ii. p. 25]. [NUMERICAL METHODS.] [STATISTICS.]

1841.—In *Journ. of Statis. So.* a paper: *On the Best Method of Collecting and Arranging Facts, with a Proposed New Plan of Common-place Book* [vol. iii. p. 353]. See 1879.

1843.—In *Journ. of Statis. So.*: *An Attempt to Determine the Influence of Seasons and Weather on Sickness and Mort.* [vol. vi. p. 133]. [MORT. OBS.] [SICKNESS.]

Same year; read before *Statis. So.*: *Contributions to a Knowledge of the Influence of Employments upon Health* [*Journ.* vol. vi. p. 197]. [CONSUMPTION.] [OCCUPATIONS.]

Same year; same *So.*: *Further Contributions to a Knowledge of the Influence of Employments upon Health* [*Journ.* vol. vi. p. 283].

1844.—Same *So.*: *A Third Contribution to a Knowledge of the Influence of Employments upon Health* [*Journ.* vol. vii. p. 232].

1845.—Before *Statis. So.*: *On the Duration of Life among the Families of the Peerage and Baronage of the U. K.* [*Journ.* vol. viii. p. 69]. See hereon *Assu. Mag.* vol. ix. p. 307. [MORT. OBS.] [PEERAGE.]

Same year; same *So.*: *On the Causes which Determine the Choice of an Employment; being an Add. to the Essays on the Influence of Employments upon Health* [*Journ.* vol. viii. p. 351]. [OCCUPATIONS.]

1846.—*Statis. So.*: *On the Duration of Life among the English Gentry, with Add. Obs. on the Duration of Life among the Aristocracy* [*Journ.* vol. ix. p. 37]. [MORT. OBS.]

Same year; before *Statis. Sect. of Brit. Asso.*: *On the Duration of Life in the Members of the Several Professions* [*Journ.* vol. ix. p. 346]. [MORT. OBS.] [OCCUPATIONS.]

Same year; *Statis. So.*: *On the Duration of Life of Sovereigns* [*Journ.* vol. x. p. 62]. [MORT. OBS.] [ROYALTY, LONGEVITY OF.]

1848.—Before *Statis. So.*: *On the Health of Nightmen, Scavengers, and Dustmen* [*Journ.* vol. xi. p. 72]. [OCCUPATIONS.]

1849.—Before Statis. So. : *On the Relative Value of Averages derived from Different Numbers of Obs.* [xiii. 30]. [MORT. OBS.] [NUMERICAL METHODS.] [STATISTICS.]

1851.—Before Statis. So. : *On the Duration of Life among the Clergy* [Journ. vol. xiv. p. 289]. [CLERGY, LONGEVITY OF.] [OCCUPATIONS.]

1852.—Statis. So. : *On the Relation of the Price of Wheat to the Revenue* [Journ. vol. xvi. p. 53]. [FOOD.]

1853.—Before Statis. So. : *On the Duration of Life among Medical Men* [Journ. vol. xvii. p. 15]. [LONGEVITY.] [OCCUPATIONS.] [PROFESSIONAL CLASSES.]

1855.—Before Statis. Section of Brit. Asso. : *On the Fluctuations in the Number of Births, Deaths, and Marriages, and in the Number of Deaths from Special Causes, in the Metropolis during the last 15 Years, from 1840 to 1854 inclusive* [Journ. of Statis. So. vol. xviii. p. 312]. [MORT. OBS.]

Same year ; Statis. So. : *On the Nature and Extent of the Benefits Conferred by Hospitals on the Working Classes and the Poor* [Journ. vol. xix. p. 12]. [HOSPITALS.]

Same year ; before Inst. of Actuaries : *Analogy Existing between Aggregate Effects of Operations of the Human Will and Results commonly Attributed to Chance* [Assu. Mag. v. 315]. This instructive paper will be referred to under HUMAN WILL, OPERATIONS OF.

1857.—Statis. So. : *On the Duration of Life among Lawyers ; with Add. Obs. on the Relative Longevity of the Three Learned Professions* [Journ. vol. xx. p. 65]. [LONGEVITY.] [PROFESSIONAL CLASSES.]

Same year ; same So. : *On the Ann. Fluctuations in the Number of Deaths from Various Diseases, compared with like Fluctuations in Crime, and in other Events within and beyond the Control of the Human Will* [Journ. vol. xxi. p. 52]. [DISEASES.] [HUMAN WILL.]

1859.—Statis. So. : *On the Duration of Life as affected by the Pursuits of Literature, Science, and Art* [Journ. vol. xxiii. p. 337]. [LONGEVITY.] [PROFESSIONAL CLASSES.]

1862.—Before the Social Science Congress this year : *On some Results of a Recent Census of the Pop. of the Convict Prisons in England ; and especially on the Rate of Mort. at present Prevailing among Convicts* [Trans. p. 561]. [PRISON LIFE, MORT. AND SICKNESS RESULTING FROM.]

1863.—In the 5th Rep. of Med. Officer of the Privy Council is contained : *Rep. on Alleged Fatal Cases of Poisoning by Emerald Green ; and on the Poisonous Effects of that Substance as used in the Arts*, by Dr. Guy. [OCCUPATIONS.] [POISONS.]

Same year ; Statis. So. : *On Sufficient and Insufficient Dietsaries, with Especial Reference to the Dietsaries of Prisoners* [Journ. vol. xxvi. p. 239]. [PRISON LIFE.]

1865.—Statis. So. : *On the Original and Acquired Meaning of the Term "Statistics," and on the Proper Functions of a Statis. So. : also on the Question whether there be a Science of Statis. ; and, if so, what are its Nature and Objects, and what is its Relation to Political Economy and "Social Science" ?* [Journ. vol. xxviii. p. 478]. [STATISTICS.]

1867.—Statis. So. : *On the Mort. of Lond. Hospitals ; and Incidentally upon the Deaths in the Prisons and Public Inst. of the Metropolis* [Journ. vol. xxx. p. 293]. [HOSPITALS.] [PRISON LIFE.] [PUBLIC INST.]

1869.—Statis. So. : *On Insanity and Crime : and on the Plea of Insanity in Criminal Cases* [Journ. vol. xxxii. p. 159]. [INCENDIARY FIRES.] [INSANITY.]

1870.—Statis. So. : *On the Claims of Science to Public Recognition and Support, with Special Reference to the so-called Social Science* [Journ. vol. xxxiii. p. 433].

Same year he pub. : *Public Health : a Popular Introduction to Sanitary Science* (pp. 216). [PUBLIC HEALTH.]

1874.—He pub. : *Public Health : a Popular Introduction to Sanitary Science, Part II. —War in its Sanitary Aspects* (carried to p. 342).

1875.—Before Social Science Congress (Brighton) : *The Executions for Murder that have taken place in Eng. and Wales during the last 70 Years.*

1879.—Before Statis. So. a paper : *On Tabular Analysis* [Journ. vol. xlii. p. 644]. [STATISTICAL METHODS.]

GUY'S HOSPITAL.—Founded 1721. See HOSPITALS.

GUYOT, ARNOLD.—Pub. 1857 : *The Earth and Man, or Comparative Physical Geography in its Relation to the History of Mankind.* New ed. 1870.

GYBING.—In Sailing, the art of "going about" when the wind is astern or abaft the beam. It consists in bringing the ship's head across the wind, when the wind exercises its force on the opposite side of the sail to that which it previously affected.—*Brande.*

GYMNASTICS.—Exercises systematically adapted to develop and preserve the physical powers. By the term Medical Gymnastics is denoted that part of hygiene which treats of bodily exercise. [CALISTHENICS.]

GYPSIES.—Many remarkable (reputed) cases of longevity have occurred amongst the Gypsy race, who are now the sole representatives in Europe of the early nomade or pastoral life. It is stated upon the authority of *Hone's Table Book*, that no instance has been known of a gypsy committing suicide. They are supposed to be descendants of Hindoos expelled by Timour about 1399.

It has been recently estimated by Mr. Geo. Smith, of Coalville, Leicester—a competent authority—that some 2000 of this race pitch their dwellings in the outskirts of the metropolis. They are especially numerous round Hackney.

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HABERDASHERS HALL, ANNUITY SCHEME AT.—Under title ANNU. ON LIVES, date 1709, we have given an outline of a scheme for the purchase of Gov. Life Annu. at this date, and converting the operations into a speculation of Tontine Annu. The following add. details complete all that is known concerning it :

In the *Postboy*, 29 Oct. 1709, was the following :

The lucky 70, or the longest liver takes all. In a proposal for Annu. for life, with the benefit of survivorship : such as the purses of the generality of the people may be able to compass ; issuing out of annu. granted or to be granted by Parl. for a term certain of 99 years.

Subscriptions are taken from 2 till 5 in the afternoon at Haberdashers Hall in Maiden Lane near Wood Street, London ; where may be seen the Art. of Agreement, the method of disposing of the Subs. Monies and Tallies, and the allowances to the subscribers of the first £20,000, and other particulars belonging to the said proposal.

We believe the scheme did not float ; although in 1710 there was a drawing which may have related to the same. See ANNU. ON LIVES, this date.

HABIT OF BODY.—A term employed to indicate the general tendency of the bodily growth, as obese, spare, tall, short, etc. Mr. Ward, in his *Medical Estimate*, etc., says (p. 7):

It is requisite also to state whether the *habit of body* be full or spare. Excessive sparseness, amounting to emaciation, should excite suspicion, as indicating some constitutional malady which either involves constant loss of material, or interferes with nutrition. Where such emaciation is accompanied with evident want of power, the life should be declined, even though no disease is to be detected. Great obesity must also be looked upon as an unsatisfactory feature, especially in comparatively young persons. Very corpulent people are usually high livers, and take but little exercise. They are in other respects bad lives : the fat in the abdomen interferes with the action of the diaphragm and the effective expansion of the lungs, and causes shortness of breath, either constant or induced by trifling exertion ; fat becomes deposited about the different viscera and impairs their functions ; it accumulates around the heart and its tissue, and sometimes takes the place of this ; while the general mass impedes the movement, and interferes with the exercise necessary to health. Fat people, moreover, exhibit but little power of resistance when overtaken by disease.

See HUMAN BODY, PROPORTIONS OF.

HABIT AND REPUTE.—Living together as man and wife and being accounted such : one of the methods of establishing a marriage under the Scotch Law. Questions hereon have arisen, and may again arise, affecting Ins. contracts under the Married Woman's Property Act, 1870. The Act does not extend to Scotland, but in cases of persons married by habit and repute in Scotland, afterwards coming to reside in England, a difficulty is felt.

HABITATIONS (HUMAN), THEIR EFFECT ON HEALTH.—See HOUSES.

HABITS OF LIFE.—In the practice of Life Ins. it becomes a matter of the first importance to ascertain the personal habits of the life offered for insurance. To this end a great many of the questions in the proposal [application] form are shaped ; and to this end almost exclusively are inquiries made of personal friends, and of the agent who has introduced the life. The information so obtained has to be considered in conjunction with the general condition of the physical frame ; also, to some degree, in the light of the family history, and very especially in relation to occupation and age. Given the real facts in each of these particulars, and their conjoint influence upon the life proposed may not only be estimated by the Medical Officer of the Co., but by its managers from their every-day experience. The whole difficulty lies in obtaining a true and explicit statement of the facts.

Several Medical Examiners have recorded their views and experience upon points of this character ; some of these we now proceed to quote ; while the necessity of good-faith, in this matter especially, has been enforced under other heads, to which reference will be made at the close of this art.

1857.—Dr. Stephen H. Ward, in his *Medical Estimate*, etc., pub. this year, says (p. 10):

Habits of a morbid or disease-engendering nature form an important item in the medical estimate of life. Of such habits, the one of most moment is intemperance or habitual excessive indulgence in the use of spirituous liquors. At times, the history, previous ailments, or aspect of the party, speak openly as to the existence of such habit ; at others it will require all the tact and powers of observation of the medical referee to detect it. No mere positive assurance of the party as to his sobriety should satisfy, as it is obviously his interest, if not to deceive, at least to make light of his propensities, or if he do evade giving a direct answer to queries proposed, his views as to what constitutes temperance may be vastly different from those of his examiner. It will therefore be advisable, if any doubt exists upon the matter, to subject him cautiously, and with apparent indifference of manner, to a series of questions, in order to elicit information as to the quantity and nature of the spirituous liquor which he imbibes : whether he is in the habit of drinking between meals upon an empty stomach, and whether or no his occupation particularly exposes him to temptation. Where the means of the party are independent, the inquiry into habits becomes of paramount importance. At the head office

of a so. information as to habits, which may escape the medical referee, is often obtained through agent, private friend, or private medical attendant.

1861.—Dr. A. P. Stewart, in his *Obs. on the Characteristics of Assurable and Non-Assurable Lives*, pub. this year, says (p. 44):

5. His *Habits* and mode of living are irregular, the risk becomes so great that no increased premium will cover it. The same may be said of all who indulge to excess in stimulants of any kind. To them the penalty comes so surely, and often so swiftly, in the shape of incurable disease of the liver and kidneys, or of delirium tremens, epilepsy, or softening of the brain, that avowed and confirmed tipplers are by common consent rejected. It is sometimes a difficult question, whether to accept at a largely increased prem., or to decline one who occasionally transgresses; or one, who having been intemperate, has for some time led a sober and steady life; or public-house keepers who are constantly exposed to temptation, and sometimes yield to it. But still more difficult is it, owing to the want of thoroughly reliable information, to say what course shall be followed in reference to men not generally reckoned intemperate, though they habitually indulge in the pleasures of the table. They eat largely—in regard to some it would be more proper to say gluttonously—and they drink in proportion, in order to quell the tumult that would otherwise ensue. Thus they are doubly intemperate, and yet by a pleasant fiction they escape, under the title of *bons vivants*, the character which they earn every day of their lives, of “gluttonous men and wine-bibbers, and riotous eaters of flesh.” If in a third particular—that of *exercise*—they are intemperate also, excess in it may to a considerable extent counterbalance the ill effects of over-indulgence; but if, on the contrary, they are indolent and sedentary, their lives, if merry, will also be short, and ought not to be accepted without an addition of 10, 15, or 20 years. We cannot pass by unnoticed another form of excess, which unhappily is ever on the increase among all classes of the pop. Habits of debauchery and vicious indulgence, which multitudes seem to regard as the natural and necessary accompaniments of youth, are sapping not only the morals, but the physical strength of very many of the rising generation. The physical exhaustion which such habits induce is not unfrequently the forerunner of epilepsy, chronic disease of the brain and creeping palsy, as it is popularly and very aptly termed. And when constitutional disease has been once contracted, it is hard to say when it is expelled from the system. Not unfrequently those who had believed themselves long and entirely free from taint have become subject to excruciating head-ache, followed by fatal convulsions, dependent on syphilitic tubercle in the membranes of the brain. It is a fair question for discussion, whether any one who has had secondary symptoms should be accepted without a very large addition?

He then passes to another aspect of the question:

In the same category as the gourmand, we must place men of a very different stamp, to whom we have already referred once and again,—those, namely, whose meals occupy far too small a share of their thoughts and time, and whose health is consequently, in the course of a few years, greatly impaired or permanently damaged. Among men of business, irregular and hurried meals—in other words, the habits of long fasting and fast eating—are making prematurely old a large proportion of the present generation. Those, again, who of their own free will are induced, or by the nature of their occupation are compelled, to turn night into day, and to deny themselves that repose which nature craves, and without which its powers must sooner or later flag, or suddenly collapse, cannot expect to be long-lived. Chomel states, as the result of 40 years' experience, that “one scarcely ever sees those who spend the day in sleeping and the night in watching, reach an advanced age.” And the evil is greatly aggravated, if in order to drive away sleep and keep up a false excitement, recourse is had to stimulants, as brandy, opium, or frequent draughts of strong tea or coffee: which in the long run shatter the nervous system, and so weaken the digestive organs that they never fully recover their healthy tone and vigorous action. We have surely said enough to make plain to all how very extensive is the class of *doubtful* lives, and how important is any proposal which tends to lessen the inequalities inseparable from the present method of estimating their prob. value.

See DISEASED AND IMPAIRED LIVES, this date.

1865.—Mr. John Mann, in his *Contributions to the Medical Statistics of Life Assu.*, says (p. 101) under “Habits”:

The most important of these are such as violate the laws of temperance in eating or drinking. Upon these, remarks and details of striking weight have already been given under the head of *Temperance*. Another habit is, however, worthy of some consideration, which has become very prevalent, especially among the young people of the present day, with whom it seems to be looked upon as a sort of manly accomplishment—namely, that of smoking. Thus acquired in youth, it becomes a habit which is continued into mature life.

[CONCEALMENT.] [DECLARATION.] [FAMILY HISTORY.] [GLUTTONY.] [GOOD FAITH.] [GOOD HEALTH.] [GOUT.] [INTEMPERANCE.] [MISREPRESENTATION.] [OCCUPATIONS.] [PERSONAL HABITS.] [SMOKING.]

HABITUAL DRUNKARDS, TREATMENT OF.—See *INTEMPERANCE*.

HADDEN, WM.—Editor of *Ins. Journal* (Lond.), No. 1 of which was pub. 15th July, 1878. He was previously for some years proprietor of the *New England Ins. Gazette* (Boston, U.S.). He returned to England in 1876, and in 1877 for a short time occupied the position of District Man. for the *Star Life* in Chester. See *INS. JOURNALS*.

HADEN, F. SEYMOUR, M.D.—The earnest advocate of a much-needed reform in the direction of simplifying our mode of burying the dead. He published 1875: *Earth to Earth; a Plea for a Change of System in our Burial of the Dead*. [FUNERALS.]

HADLAND, HENRY.—Was Sec. of *Christian Mut. Provident* during the first few years of its existence.

HÆMATEMESIS.—Vomiting of blood, as distinct from *HÆMOPTYSIS*, spitting of blood.

Dr. Adams Allen, in his *Medical Examinations for Life Ins.* (1869), says hereon (p. 47):

Hæmatemesis, a symptom often confounded with hæmoptysis, is of vastly less significance, nevertheless requires, from its occasional dangerous origin, very careful inquiry as to its real cause. The blood may have come from the nares, the throat, or the lungs, have been swallowed and vomited. It may have come from aneurism above or below the stomach, from malignant or non-malignant gastric ulcer; occasionally as the result of severe gastritis; again, as vicarious of menstrual or other discharges. In the vast majority of cases it occurs as the result of the local congestions of malarious diseases, or from scorbutus or purpura. The decomposed blood, or coffee-grounds vomit of yellow fever, etc., need hardly be alluded to.

We have records of some experience of insured life as affected by this disease.

1860.—In the *North British Ins. Co.* during the 37 years 1823–60 there were 3 deaths from this cause. The average duration of life after ins. was 8 years 1 month; the average expec. 31·70; the per-centage on total mort. '23.

1873.—In the Experience of the *S. Widows Fund* from 1815 to 1873, the deaths from this cause had been 24, of which 3 occurred between ages 30 and 40; 3 between 40 and 50; 10 between 50 and 60; 6 between 60 and 70; and 2 between 70 and 80.

HÆMATEMESIS, DEATHS FROM, IN E. & W. (Class, LOCAL; Order, *Diseases of Digestive Organs*).—The deaths from this cause are not very numerous. In 1865 they were 301: males 170, females 131. In 1866 they were 312: males 179, females 133. In 1867 they were 295: males 179, females 116. The ages at death in this last year were: Males under 20, 7; between 20 and 45, 53; between 45 and 75, 107; between 75 and 95, 12. Females under 20, 15; between 20 and 45, 26; between 45 and 75, 65; between 75 and 95, 10. See HÆMOPTYSIS.

HÆMATICS.—Medicines presumed to act especially upon the composition of the blood.

HÆMOPTYSIS.—The spitting of blood; expectoration of blood; hæmorrhage from the lungs. See HÆMATEMESIS.

The importance of this disease lies in its indication of consumptive tendencies. The 1st Rep. of the Brompton Consumption Hospital stated that this symptom had occurred in 61·9 p.c. of males, and 65·2 p.c. of females—giving a mean of 63 p.c. In the 2nd Rep. of the same Hospital (1863) it appeared that in a total of 5045 cases of phthisis, Hæmoptysis had been present in some degree in 4125. This gave a proportion of 77·46 p.c. This conformed very nearly to an estimate made by Andral in Brussels. In 38·1 p.c. of males, and 34·8 of females (Brompton), by the first report no Hæmoptysis had occurred: in the 2nd Report this proportion was reduced to a mean of 22·54 p.c. for males and females. It was pointed out by Mr. Mann (*Medical Statistics*, etc.) that the class of cases in which these symptoms were entirely absent would become less in proportion as the inquiry extended over the previous years of life: "The interval between the first attack of Hæmoptysis, and the final development and fatal issue of Phthisis, being sometimes separated by several years. I remember one instance in which the first attack of Hæmoptysis took place in 1831, at the age of about 44 years, and death from Phthisis in 1851, or fully 20 years afterwards." In about one-twelfth of the whole number of cases (Brompton 2nd Rep.) this symptom had occurred more than 2 years antecedently to the admission of the patients into the Hospital.

The following important T. was included in the 2nd Rep. already referred to:

Age.	Hæmoptysis occurred.		Hæmoptysis did not occur.		Total of cases observed.		Hæmoptysis occurred p.c.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
0—5	0	3	2	4	2	7	.....	42·9
5—15	7	32	14	9	21	41	33·3	78·0
15—25	124	107	85	45	209	152	59·3	70·4
25—35	175	59	71	42	246	101	71·1	58·4
35—45	115	35	48	25	163	60	78·4	89·4
45—55	29	7	23	8	52	15	55·8	46·7
55—65	3	0	10	2	13	2	23·1	.....
65—75	0	0	0	0	0	0	.....	.....
Totals	453	243	253	135	706	378	64·2	64·3

1857.—Ward, in his *Medical Estimate*, etc., says (p. 54):

Where there has been undoubted hæmoptysis to any extent, especially in an individual exhibiting a strumous tendency either in himself or family, the life must be unconditionally rejected.

1862.—Dr. Fleming (*Medical Statistics*, p. 43) says:

My experience is unfavourable to applicants who at any period of their lives have had a decided symptom of disease of the lungs, more particularly spitting of blood, however small the quantity, or however short the duration of the attack. The family hist. may be unexceptionable, the proposer may at the time be in average health, but explain it as he may, specially plead the causes in the most ingenious manner, some organic lesion, or the seeds of disease may be there, though even an accomplished stethoscopist cannot detect them. Be not deceived by the specious and plausible opinion, that, had disease existed, it would have betrayed itself long ago. It is astonishing for what a length of time the seeds of disease may lie dormant in the lungs.

1865.—Mr. Mann (*Medical Statistics*), reviewing the T. already given, says (p. 108):

The reflection that immediately occurs to our mind on the inspection of this T. is in relation to the *Ins. of Female Lives*. The greater part of these come to us for *joint* assu.; and the largest proportion of joint assu. are made soon after marriage. Therefore the period of life at which these are made would average from 20 to 25 years of age. Now this is just the period of life in which the cases of hæmoptysis preceding phthisis amount to 70 p.c. How great an importance then should be attached to this symptom in the female sex, and at that particular period of life.

This T. furnishes us with information nearly approaching to accuracy as to the frequency with which hæmoptysis occurs in phthisis. Another question, however, arises in connexion with all life proposals which contain this ominous symptom in their hist.: namely, How frequently is hæmoptysis followed by

phthisis? Or, in other words, How many, having suffered at some period of their life from hæmoptysis, will escape its usual sequel, phthisis, at some future period?

He proceeds to answer this by reference to several authorities. Thus Louis (*Phthisis*, p. 67, Sydenham So.'s ed.) states that through the course of 15 years, although he had invariably inquired in every case submitted to his obs., whether hæmoptysis had occurred at *any period* of their lives, he had *never* found it unconnected with phthisis—except in individuals who had suffered severe contusions of the chest: or in women whose catamenia had been suddenly suppressed. And Andral (*Clinique Medicale*, tome ii. troisième ed. p. 14) states from his own experience that one-fifth only of those who had suffered from hæmoptysis had not been attacked with pulmonary tuberculosis; and at a later period he more positively confirmed the statement. To which Mr. Mann adds:

In a large proportion, however, of these cases in which hæmoptysis has been fatal without the previous deposition of tubercles in the lung, there can be little doubt that they were true cases of phthisis in its incipient stage, which would have been ultimately developed, had the patient escaped death from hæmorrhage. This will be frequently proved, almost demonstrated by the previous, or subsequent family hist. . . .

If hæmoptysis, then, be so closely connected with phthisis, even in those instances which seemed to be exceptions to the general rule, the question recurs—How many escape? For we should hardly think it right to accept any who have once experienced this symptom, except we believe that in some instances it is totally unconnected with phthisis; and that in some other instances in which that tendency actually existed, the period of life has passed away at which it might be expected to re-appear. Now this interval between the first attack, and the close in phthisis, may be long. I have related a notice of a case in which more than 20 years elapsed between the first attack of hæmoptysis and the death of the same individual from phthisis, at a period of life when he had reached 64 years of age. These cases, however, are rare, and no doubt there may be cases of complete recovery, and even of permanent health, after the occurrence of this dreaded symptom.

1877.—In the *Mortuary Experience of the Mutual Life* (of N. Y.) there occurs (p. 80) the following passage, confirmatory of British experience:

. . . Hæmoptysis or spitting of blood. This is properly considered, and has often been demonstrated, to be one of the most certain indications of approaching phthisis, and it is considered by all Life Ins. Cos. to be of such fatal omen as to exclude those who have once suffered from it, except under very special circumstances. We believe they all refuse to admit any applicant who may have raised blood from his lungs within a period varying from 5 to 10 years previous to his application, and even after this period he must give indications of exceptionally sound health.

There is then given a list of all the cases in the mort. experience of the So. in which there was any record of hæmoptysis previous to ins., and in which was included "spitting of blood to any amount, and from any source whatever." After which the following:

These figures do not show the absolute value of hæmoptysis as a sign of a consumptive tendency, or the frequency with which it is followed by that disease. Our cases are all selected ones, in which, notwithstanding the occurrence of hæmorrhage, the risk of consumption was considered small. There are only 63 out of a total of 5224 deaths, in which there is any record of hæmoptysis: of these 22 died of consumption, and 41 of miscellaneous diseases. The general ratio of consumption mort. was 19:74 p.c., while in these cases it is 34:92 p.c., or nearly double. The present rule of the Co. is to reject any applicant who may have spit blood within 7 years previous to the examination. Of the total 63 cases of hæmoptysis, the date of its occurrence is stated in 39—in 13 cases the date of hæmorrhage was within 7 years, in 22 cases within 10 years. Of those occurring within 7 years 9, or 69:23 p.c., died of consumption; of those occurring within 10 years, 13 or 58:18 p.c.; while in those cases in which the date of hæmorrhage was more than 10 years before ins., only 18:75 p.c. died of consumption. This shows conclusively not only the propriety of the present rule, but also the advisability of the extension of the limit to 10 years, and its invariable enforcement. A few good risks might be rejected, but the Co. would be saved from considerable loss. In less than half the cases the supposed source or cause of hæmorrhage is given, and in the majority of these it was reported as slight, as coming from the throat and nose, or as the result of an injury or excessive exertion. These explanations are mostly given in the consumptive cases, and our experience shows that statements indicating the cause of the hæmorrhage are usually untrustworthy, as patients always, and physicians sometimes, are apt to delude themselves with the most hopeful views.

The cases are too few to determine certainly whether hæmorrhage is a more important symptom when occurring at one period of life than another. It would appear, however, that hæmoptysis during childhood is not an indication of a consumptive taint: for of the 5 cases in which it occurred before the age of 15 years, none died subsequently of consumption.

[CONSUMPTION.] [LUNG DISEASE.] [MEDICAL EXAMINATIONS.] [PREVIOUS DISEASE.] [SPITTING OF BLOOD.] [TUBERCULAR DISEASES.]

HÆMOPHTYSIS, DEATHS FROM, IN E. AND W. (Class, CONSTITUTIONAL; Order, Tubercular).—The deaths from this cause are numerous. In 10 consecutive years they were as follows: 1858, 592; 1859, 514; 1860, 520; 1861, 574; 1862, 694; 1863, 891; 1864, 1036; 1865, 1210; 1866, 1141; 1867, 1197; showing almost a continuous increase.

The deaths in 1867 were: males 809; females 338. Of the males 5 died under 5; 6 between 5 and 10; 11 between 10 and 15; 37 between 15 and 20; 91 between 20 and 25; 226 between 25 and 35; 185 between 35 and 45; 128 between 45 and 55; 77 between 55 and 65; 36 between 65 and 75; 6 between 75 and 85; and 1 between 85 and 95. Of the females 3 died under 5; 4 between 5 and 10; 12 between 10 and 15; 38 between 15 and 20; 55 between 20 and 25; 78 between 25 and 35; 67 between 35 and 45; 49 between 45 and 55; 49 between 55 and 65; 22 between 65 and 75; 10 between 75 and 85; and 1 between 85 and 95.

Spitting of blood is indicative of other tubercular diseases. See HÆMATEMESIS.

HÆMORRHAGE [HÆMORRHAGE].—From the Greek, a compound word signifying *blood*, and *to burst forth*. A blood-flux [*vide* old B. of Mort.], or any violent bleeding. Hæmorrhage is termed *passive* when it is a common consequence of congestion; and *active* when it takes place immediately from the arteries. In cases of wounds hæmorrhage is

termed *primary* or *immediate* when it follows immediately after the infliction of the injury; and *secondary* when it occurs at a period varying from 5 to 25 days after the injury. As to the bearing of hæmorrhage upon the selection of lives for Life Ins., see HÆMATEMESIS and HÆMOPTYSIS.

HÆMORRHAGIC DIATHESIS.—A tendency in certain constitutions to uncontrollable hæmorrhage from trivial wounds or slight surgical operations.

HAFNE.—A haven or port.

HAGA.—A house in a city or borough.—*Scott.*

HAGHE, MM. F. G. AND F. CRUYSMANS.—Pub. in Brussels in 1853: *Commentaire sur la Police d'Assurance Maritime d'Anvers, précédé d'un Exposé des Principes généraux du Contrat d'Assurance Maritime.*

HAGTHORPE, JOHN.—Pub. 1625: *England's Exchequer; or, a Discourse of the Sea and Navigation.*

HAHNEMANN AND HOMŒOPATHIC AND GEN. LIFE ASSU. AND PROVIDENT INSTITUTION.—This Co. was projected in 1850 by G. Napoleon Epps, Surgeon, and Donald Brown. It died as a consequence of a too-diminutive dose of public patronage.

HAIG, J. NAPIER.—Was some time Sec. in Calcutta for the *European Life*.

HAIL INSURANCE.—The origin of the practice of insuring against the devastation committed upon glass, and upon grain, fruit, and other crops, by hailstorms, neither belongs to this country (U.K.) or to this century, as has heretofore been generally supposed. Germany appears entitled to claim priority in this matter.

Few seasons pass by in this country without some considerable damage being inflicted upon market gardeners and agriculturists by hailstorms; while some parts of the Continent of Europe appear to suffer even more by severe visitations. The degree of damage committed upon the crops varies much with the season of the year when the storms occur. Grain, seeds, or fruit (particularly grapes) nearly ripe for gathering may be almost totally destroyed.

There is another circumstance which renders the application of ins. to damage by hailstorms particularly appropriate, and this is that the storms are usually very limited in their area—frequently extending over but a few miles: thus it may happen that on one farm, vineyard, or estate all the crops may be damaged, while on the adjoining properties no mischief has resulted. Hence a small prem. suffices to afford protection—except indeed in certain districts where (from causes not yet fully understood) visitations are much more frequent than in others. See title HAILSTORMS.

1797.—The first known asso. for ins. against the damage caused by hailstorms was that founded at Neubrandenburg this year, the *Mecklenburg Hail Ins. Asso.*, of which we have already given an account under GERMANY, sub-heading *Hail Ins.* The Asso. is conducted upon the mut. contribution plan. At the close of the first half century of its operations—viz. in 1847—it celebrated the reaching that state of its existence with all due honours; and its Managers furnished the following valuable details regarding its operations:

In the first 5 years of the Co.'s existence the proportion of losses to sum insured was the *most* favourable, and in the 8th quinquennial period, 1832–6, the *least* so. The *next highest* rate of loss was the period 1807–11; and the nearest approach to the latter was experienced in the period 1842–6—which, however, included 3 years belonging to the most favourable of the Co.'s existence. The years 1845–6 being heavily taxed, more than counterbalanced the effect of the 3 previous years.

In the 50 years the sum of £215,000 had been levied in the way of contributions required from the members—amounting to 21·5 p.c. on the sum insured for the whole period, giving an average of '43 (or 8s. 7d.) upon each £100 insured. While this appears a very high rate for England, it has to be remembered that this Co. insured *Tobacco* in plant, and *Oil-grains* largely: the rate of prem. for these ranging from 1½ to 2 p.c.

For subsequent hist. of Hail Ins. in this part of Europe, see GERMANY, sub-heading *Hail Ins.* Ins. of this class is much more general in Germany than in the U.K.

1801.—The next attempt at Hail Ins. occurred at Toulouse (*France*) at this date, at the instance of M. Barrau. It appears that that philanthropic and enterprising man was in advance of his time, as he met with very few individuals (beyond those immediately associated with him) whom he could persuade to look with favour on his project. It was considered to be more than a mere novelty. Like all descriptions of the ins. bus. in France, in these early times, it was considered to be a great innovation—something like an interference with the dealings of Providence. Even the various governmental bureaux opposed it; and in 1809 (incredible as it may seem) the Council of State suppressed the So.—M. Barrau having lost all his fortune in endeavouring to introduce and estab. the bus. M. Barrau protested, and at the same time predicted that the form of ins. would ultimately be successful and profitable, as the conditions of its averages were capable of being determined. On that point he laid down the following rule:

To obtain complete success the ins. should extend over a large surface, and unite the largest number possible of equally distributed individuals. A large number insuring under the greatest chance of individual safety would permit great reduction of prem., while the payment of the risks would be as fully assured by the reduced prem.

Notwithstanding the opposition and non-success of M. Barrau's venture, a number of other mut. hail ins. societies were soon after organized in the South of France—a tract of country particularly liable to hailstorms—all of which, however, were unsuccessful, with one exception—a Mut. Asso. (*La Cérés*) started in 1823, which still exists. Its experience is valuable, and fortunately it supplies data for the whole period of its existence, except for the year 1831, the records of which are wanting. In the period there were 17 years in which there was net financial loss, the heaviest damages taking place in the years 1839, 1848, 1853, 1855, 1856, 1861, and 1867. No losses were experienced in the years 1874, 1875, and 1876. The ins. amounted in 1823, the first year of the So.'s existence, to £1,123,608, and in 1876 to £1,925,500; the increase of bus. in the period, over 50 years, being small, and not at all commensurate with the length of time, nor the increase of intelligence. The average prem. received over the period is 1·05 p.c., the average loss is 0·81 p.c. This is a very high per-centage, but this Asso. has much reason to congratulate itself, when compared with the Hail Ins. Cos. in France generally.

For details of Ins. Asso. of this class generally in FRANCE, sub-heading *Hail Ins.*

1830.—The *Gen. Assu. Co. of Trieste (Austria)*, founded this year, had for one of its branches the ins. against damage from hailstorms. We have no details regarding this portion of the Co.'s bus.—but see GERMANY, sub-heading *Hail Ins.* 1851.

1840.—The earliest Co. founded in *England* with power to ins. against destruction by hailstorms was the *Farmers and Gen.* (which afterwards became *Royal Farmers*). This Co. did not actually issue Hail Ins. pol. at this date. Its prosp. said: "Arrangements are now made for effecting Ins. against Hailstorms without risking the cap. of this Inst. The agents of this Inst. will receive proposals and give every information, or applications may be addressed to this office." See 1842.

1842.—A Co. under the title of the *Farmers and Gardeners Hailstorm Ins. Co.* commenced the actual bus. of Hail Ins. in the U. K. this year. This Co. had probably been promoted under the auspices of the *Farmers and General Co.*, founded 1840, with powers for this branch of bus. The first pol. issued (bearing date 27 June, this year) was taken out by Mr. William Wing, of Steeple Aston, Oxford, farmer, through the courtesy of whom we are enabled to present the following copy of that most interesting document:

No. 1. The FARMERS AND GARDENERS Hailstorm Ins. Co. (to be empowered by Act of Parl.), Offices, 356, Strand, London. Whereas *William Wing, of Steeple Aston, Woodstock, in the County of Oxon, Farmer*, paid the sum above stated [Memorandum on top corner of pol. "Received for the Ins. of £864, on agricultural produce under-mentioned, prem. £1 10s. 0d., stamp, £1 2s. 6d., £2 12s. 6d."] to the So. of "The Farmers and Gardeners Hailstorm Assu. Co." in London, and has agreed to pay or cause to be paid to them at their office the sum of £1 10s. 6d. on the 1st day of May yearly during the continuance of this pol., for Ins. from loss or damage by Hailstorms, the sum of £864 on agricultural produce on his farm called "*Whistlow*," situate in the parish of *Steeple Barton, in the county aforesaid*, in manner hereinafter specified, that is to say:

Wheat [fields specified] in all	34 acres at	£12	£408
Beans	6 acres at	£6	36
Barley	13 " "	£6	78
Wheat [another farm]	16 " "	£12	156
Barley	29 " "	£6	174
Peas..... Do.	3 " "	£4	12
			—£864

The above are the only Farms situate as aforesaid in which the insured has any interest. The above is the total quantity of the several descriptions of Produce named on the said Farms.

AVERAGE CLAUSE.—It is hereby declared and agreed, that in case the number of acres of any sort of Grain, Seeds, Pulse, or other article secured by this pol., on the Farm, Farms, or Land, therein described, shall at the happening of any loss or damage, by Hailstorms, be greater than specified in this pol., then this Co. shall pay to the Assured such a proportion of the loss or damage as the sum insured on each kind of Grain, Pulse, Seeds, or other articles shall bear to the number of acres in each case respectively, subject nevertheless to the condition contained in condition 2 indorsed on the back of the pol.

NOW THEREFORE THIS POL. WITNESSETH, that it is hereby declared on behalf of the said Co., by three Directors thereof, whose names are hereunto subscribed, that if the said Assured shall, on the first day of May in each succeeding year, duly pay or cause to be paid the prem. or sum of one pound 10s. 6d., and all duty payable by authority of Parl. in respect thereof, and the Directors of the Co. for the time being shall accept the same, the funds and property of the said Co. according to the D. of Sett. thereof shall be subject or liable to pay or make good to the said Insured, his, her, or their exors. or administrators, all such damage and loss not exceeding the sum hereinbefore mentioned as shall happen by Hailstorms, between the 30 day of April and the first day of November in each year, to the produce hereinbefore mentioned according to the tenor of the conditions indorsed hereon. But it is expressly declared, that the funds and property of the

Co. answerable for the payment of moneys insured by this pol., and all other pol. issued during the current year, shall consist of the sum of £3000, together with the prems. paid for Ins. effected in this office during the year in which moneys hereby assured shall become payable, after payment and deduction thereof of all expenses; and that no Director of the Co. by whom this pol. is executed, nor any other proprietors of the Co., shall be responsible for the payment of a contribution towards the moneys insured by this pol., or be liable to any demand against the Co. on any pretence whatever beyond the said sum of £3000 together with the prems. paid for Ins. effected in this office during the current year after such payment and deductions as aforesaid.

In Witness whereof, We (three of the Directors of the said Co.) have hereunto set our hands and seals this *twenty-seventh* day of *June*, in the year of our Lord one thousand eight hundred and forty-two.

The "Conditions" on the back of this pol. were the following:

I. Any person desirous of effecting ins. upon crops must furnish the Office or its Agents with an exact description of the number of acres, name of farm, and place where situate; and if there be any omission or misrepresentation in such description, this Office will not be responsible in case of loss or damage. A maximum price p. acre upon each sort of crop must be fixed, and in case of total loss no larger sum will be paid.

II. In case the total amount of losses during the current year 1842, or any future year in which an ins. shall be effected or be continued, shall amount to more than the sum of £3000, together with the prems. paid for ins. effected in this office during that year, after payment and deduction thereof of the expenses of the office, the said sum of £3000, together with the prems. before named, after such payment and deduction shall be divided amongst the insured having sustained losses pro rata.

III. When only part of the crop is insured, the fields must be especially named and described.

IV. In case of partial loss, the estimated amount of loss will be paid, subject to the average clause where it applies.

V. All losses will be settled in the month of Nov.

VI. All pol. shall be signed and sealed by three of the Directors; and no receipts are to be taken for any prems. of Ins., but such as are issued from the Office, and signed by one of its clerks or agents.

VII.—This pol. is not to be of any force if assigned, unless such assignment shall be allowed by an entry thereof in the Office books.

VIII. Persons sustaining any loss by hailstorms are forthwith to give notice thereof to the Office, and as soon as possible deliver in as particular an account of their loss or damage as the nature of the case will admit of, and produce such evidence as the Directors may reasonably require. And until such evidence of the Insured's loss shall be made and produced, the loss money shall not be payable. If any difference shall arise on the valuation of any loss by the Surveyor of the Co., the Co. shall be at liberty to take the crop upon payment of the maximum price per acre, but in case they shall decline to do so, then the claim shall be immediately submitted to arbitration. Such arbitration shall be made by one or two persons, to be chosen by the assured, or his legal representative, and the Office, or by such third person as the said arbitrators shall appoint, or by any two of them, and no compensation shall be payable until after an award determining the amount thereof shall be duly made. The reference shall be subject to such rules and conditions as shall be usually inserted in orders of reference in the Court of Queen's Bench at *Nisi Prius* at Westminster, and the submission shall be made a Rule of any of the Courts at Westminster.

[The signatures of the three Directors are W. Shaw, Jno. Blackstone, Wm. Smeddle, the attesting witness being Jno. Thos. Sharp, "Examined T. H. Wells."] The stamp duty it is seen was 2s. 6d. p. £100 insured.

1843.—The *General Hailstorm Ins. Co.* was founded at Norwich this year, under the circumstances set forth in our hist. of the Co., and speedily took, and has maintained, the position of a first-class Ins. Co. for this branch of bus. Its ann. reports detailing its experience in the matter of Hailstorms each year constitutes one of the features of the bus., and will be frequently referred to in a later portion of this art. The insured parti. in the profits of the Co. The Rep. presented at the 7th ann. meeting (1850) stated that the profits returned to the insured at the close of the bus. of 1849 was equal to their prems. for 1850. The Directors had resolved to reduce the rates from 8d. to 6d. p. acre, without regard to the quantity grown, or the price p. quarter to be paid as compensation in case of loss. The bus. had increased 25 p.c. during the past year.

1845.—The *Agriculturist Cattle Ins. Co.* founded this year announced its intention of ins. against destruction by hailstorms; but we believe that as a matter of fact the pol. issued by it were those of the *Royal Farmers Co.*

1847.—*Belgium.*—A Commission which had been appointed in the previous year to consider the question of taking over certain branches of Ins. bus. by the State, reported in favour of such a measure, and included *Hail Ins.* as one of the branches to be so taken over. A subsequent Commission rejected the idea, and for the following reasons more particularly: The impossibility of estab. common rates applicable to the varied products of a country—meadow and corn lands, potatoes, vines, etc.; the risk of adjoining fields, the products of which might be very unequal in value, being injured by the same storm; the mode of valuing a partial destruction of crops; the equalization of prems.—for there were some parts of Belgium which were hardly ever touched by Hail, and other parts where its ravages were frequent and severe. [BELGIUM.]

1848.—The *County Hailstorm* was founded at Hertford, as already set forth in our hist. of the Co. The first statistics pub. regarding Hail Ins. in this country were pub. by this Co. In the year 1850 upwards of 115,000 acres of standing grain had been insured, the prems. on which amounted to £2860. The losses paid under 30 claims had reached £1006. The Co. had received prems. on glass and seeds £170 in add. Losses on these not stated.

France.—A scheme was propounded for the Gov. to take over the bus. of *Hail Ins.* The proposal there was to charge 35 cents on the cap. represented by the property-tax, with an indemnity of four-fifths of the estimated value of the damage; and a reservation, that where in the case of one and the same individual, the losses did not amount to 10 p.c., or did not equal 10 francs, no indemnity should be granted. The entire scheme was defeated by the enterprise of the offices interested. See FRANCE, sub-heading *Gov. Ins. Projects*.

1851.—The *Midland Counties* (orig. *Lincolnshire*) *Ins. Co.* was founded this year, and entered upon the bus. of *Hail Ins.*, of which it has for some years transacted a considerable share.

1852.—The *Era Assu. So.* was founded, and announced a branch for the transaction of *Hail Ins.*, of which we find no details.

1854.—There was founded the *London and County Hail, etc.*, which was understood to transact a considerable bus. for some years.

1855.—The *National Economic Hail Ins. Co.* was founded this year, and after transacting a very limited bus. was absorbed by the *Gen. Hailstorm* in 1857.

1858.—The *World Ins. Co.* founded this year undertook (prob. at a later period) the bus. of *Hail Ins.* It absorbed the *City and County* in 1863. It was stated that during the 6 years this *Co.* carried on bus. the losses did not exceed 30 p.c. The bus. was small.

1863.—The *City and County Ins. Co.* founded this year proposed to carry on the bus. of *Hail Ins.*; but it became absorbed in the *World Co.* (1858) at an early date.

1865.—By the 28 & 29 Vict. c. 96, the pol. for *Hail Ins.* became liable to a modified stamp duty—the previous rate having been exceedingly onerous, where not altogether evaded by a special form of contract.

The stamp duties collected under this Act amounted in 1866 to £1061 14s. 6d.; in 1867 to £296 10s. 5d., and in 1868 to £244 1s. 8d.

The *Equitable Hail* was founded at Norwich this year, and carried on bus. with more or less success until 1867, when it merged into the *General Co.* of the same city.

The Rep. of the *General Hailstorm Co.* for this year contained the following details: The bus. of the *Co.* had increased 10 p.c., and now extended over 34 counties in England; the losses by hailstorms had been greater than for many years—the most destructive storms had been in Norfolk, Cambridge, Huntingdon, and Oxford; there were severe hailstorms in Bedford, Berkshire, Essex, Gloucester, Hertford, Leicester, Lincoln, Northampton, Suffolk, Warwick, and Yorkshire; and the *So.* had paid losses through 53 agencies in the 16 counties.

1866.—The Rep. of the *Gen. Hailstorm* for this year contained the following interesting passages:

The bus. of the *So.* still continues to maintain itself over 34 counties in England. It is a peculiar circumstance that the hailstorms last season did not display any especial destructiveness until the crops were far advanced to maturity, and when it was generally thought they were free from danger, consequently there was not the usual early inducement to insure growing crops; nevertheless, the storms, although late, have again proved the necessity of insuring against damage by hailstorms, and that no person is really safe until after harvest, as the claims for losses were larger in number than in the previous year; *in fact, they were more numerous than ever before experienced by this So. since its estab.*—coming from farmers in all directions, through 62 agents, distributed over 22 counties, showing how widespread and disastrous were the storms. The heaviest losses sustained by this *So.* were in Lincolnshire, Suffolk, Essex, Norfolk, Wiltshire, Bedfordshire, Berkshire, Cambridgeshire, Northamptonshire, and Monmouthshire; but there were also serious losses from the counties of Gloucester, Hertford, Huntingdon, Oxford, Sussex, Warwick, Worcester, and York.

The reduction of the prem. rate has been tried again during the past season, but from unfortunate causes—such as cattle plague, and other heavy calls on the agriculturist—it has not had the desired effect, either of increasing the number of insurers, nor the quantity of acres insured. This has been rather unfortunate, as the claims have so considerably increased, and the imposition of a stamp duty has been such an additional heavy charge upon the *So.* Although the dividends on investments show a satisfactory increase, and the general expenses a considerable reduction, yet your Directors regret they are unable to recommend the usual dividend of 5 p.c. to the shareholders.

1867.—The Rep. of the *Gen. Hailstorm Ins. So.*, after stating that the acreage insured by the *Co.* had been greater than in any previous year, proceeded:

The past season has been another of those remarkable for the eccentricity of hailstorms; they commenced when and where least expected early in May, and, with slight exceptions, were then heard of no more until July, the eve of harvest. The May storms were most wintery in aspect, as well as destructive in character—numbers of persons being at that time uninsured, or this *So.* would have been called upon to pay a much larger amount of compensation; this delay of so many of the insurers to renew their pol. occasioned the total loss to fall upon themselves.

The Directors take this opportunity of reminding the proprietors that there is an understanding between all the offices, not to insure crops already damaged by hail, as in the event of further storms, it has led to misunderstanding whether it was the early or the late storm that occasioned the actual loss, consequently there were many persons who were compelled to remain wholly unprotected.

Experience has shown the remarkable fact, that hailstorms occasionally visit the same farms twice

in one year, and there are instances where the same fields have suffered by a hailstorm in May and again in August.

The fearful destruction of crops by the great May storm of last season will long be remembered in those parts of the nine counties where the effects were so disastrous, and it is a singular fact that, with a few trifling exceptions, this country had none other of these visitations until the 16th, 17th, and 18th July following, when parts of five other counties suffered from a succession of hailstorms. The result of the year's experience is, that in all England there were only certain districts in 14 counties which were subject to these calamities.

The erratic occurrences of hailstorms which no one can foresee, and against which nobody can provide, except by Ins., show the utility, if not the actual necessity, of Hailstorm Ins. Offices,—and the reduced prem. now adopted places protection within the reach of all classes.

1868.—The 25th Rep. of the *Gen. Hailstorm Ins. So.* contained the following :

The uncertainty of hailstorms has this last year been highly in favour of the Office ; the season commenced as gloomily as possible, for the first hailstorm occurred on the 27th April, the earliest period on record, and from the forward state of the crops they sustained considerable damage—this was followed by 8 other storms during the season, extending over parts of fourteen counties, but the aggregate destruction was much less than usual ; the heaviest tempest fortunately occurred in September, at the close of the harvest, when the least damage could happen to the farmer, but it was severely felt over a very wide district, and in places where this So. had a great number of insurers—this providential escape from what might have resulted in many cases of loss, is therefore a source of deep congratulation and thankfulness by all.

1869.—The Rep. of the *General* for this year, after stating that the Co. had insured several thousands more acres than in any previous year, continued as follows :

The uncertainty of storms has again developed itself in an unusually erratic manner, inasmuch as the number of claims for damage done last season was just equal to the two years 1867 and 1868 together ; the losses, however, were limited to 15 counties, comprising Norfolk, Huntingdon, Bedford, Suffolk, Northampton, Warwick, &c.

It is remarkable that many counties escape these destructive calamities for one, two, or more years, and just as persons are beginning to imagine that they are henceforth to be free from hailstorms, then these terrible visitations again occur—causing more damage than the payment of prems. for 100 years would have covered.

These uncertainties can only be met by ins. spread over a very wide tract of country. Although there were only 11 hailstorms doing damage, these small figures convey no idea of the amount or extent of damage at each place in one quarter of an hour—for instance, the storm of 19th May extended over parts of 8 counties ; while the storm of 15th June was over parts of 14 counties. . . . The county of Norfolk, and certain points of an adjoining county, have been most severely visited, especially in some districts, which, if doubly rated, that sum would have been quite inadequate to meet the loss. . . .

1870.—The Rep. of the *General Co.* for this year contained the following :

Your Directors have to report that the past season has been full of vicissitudes operating against Ins. generally, but more especially Hailstorm Ins. Drought, inferior crops, and a general want of prosperity amongst the agricultural classes have tended to reduce the amount of acreage much below that which has usually been insured. . . . Another severe trial has been borne by this So., which its ample funds and extended bus. have enabled it to sustain satisfactorily. Hailstorms during the past season, although they have not been numerous, have been of a more serious character, as to the amount of damage done by them, than at any time during the past 12 years. The absence of ordinary thunder-storms, until the middle of June last, when the crops were unusually forward, had caused many to neglect to insure—even those crops which were worth insuring—then came the fearful visitations of the 16th and 17th June, and where the latter storm was heaviest, the damage was almost incredible, considering its short duration. One agent who witnessed it wrote immediately, and stated that it had exceeded in destructiveness the great hailstorm of August, 1843, and we have no reason to doubt the statement then made, for we paid his clients alone near £2000, besides other large sums in surrounding agencies, and we heard of many sufferers in the district who were not insured at all ; and to convey to our agricultural friends an idea of the extent of the losses, we extract the following items from some of our Surveyors' returns of claims allowed by us on this occasion. Wheat, five cases 24 bushels an acre, one 20 bushels, etc. Barley, two cases 24 bushels an acre, six cases 16 bushels, etc. Oats, three cases 20 bushels an acre, etc. Rye, two cases 20 bushels an acre, etc. Peas, two cases 28 bushels an acre, four cases 20 bushels, two 18 bushels, two 16 bushels, etc. Beans, one case 20 bushels an acre, three cases 16 bushels, etc., etc. Potatoes, £3 an acre, etc., etc. These being but a few cases selected from the numerous claims paid by this So. alone, it is easy to conclude that the total damage done must have been very great indeed.

1871.—The Rep. of the *General Hailstorm* for this year, after announcing that the claims upon the Co. had been greater than for either of the 10 preceding years, contained the following passages :

The unusual number of hailstorms during the year caused much injury to the growing crops insured in this office, in districts very wide apart, and also much loss, as we are informed, to crops not insured. This So. sustained damage in 19 of the heaviest hailstorms, of which the first occurred on the 17th April, and the last on the 18th August, in the midst of harvest, when most parties thought all risk was at an end ; these hailstorms happened as follows :—2 in April, 1 in May, 4 in June, 9 in July, and 3 in August ; but the most destructive of them all were in July, they extended over parts of 21 counties ; but Norfolk, Yorkshire, and Lincolnshire furnished the most formidable list of claimants ; the total sums awarded having exceeded by a considerable per-centage the amount received for prems. in those counties. We have also to record the fact that amongst the claims were several instances of crops on the same occupation having sustained injury by hail more than twice during the season, and that again have the losses been assessed and paid on estimates varying from 20 to 30 bushels an acre. One insurer received £850 ; another £350, and so on.

The uncertainty of these calamitous visitations has been yearly set forth in these ann. rep., which are distributed over all parts of England, and had induced a hope that every farmer was well advised of the advantages, as well as the necessity of insuring against loss by hailstorms ; but they have not yet had their due effect in inducing farmers in sufficient numbers either to begin or to continue to insure their crops against hailstorms. Last season more than the usual number wholly neglected to insure until their crops were actually, in part, injured by hail ; and it was found that some proposed to insure without informing the agent that their crops had been already damaged ; others went to

insure after the storms, and did not conceal their losses, but made claims for compensation on the plea that it had been their intention to insure; but the proprietors will see how impossible it was for the Directors, with justice to them and to insurers, to admit that such intentions were sufficient grounds to justify claims upon the funds of this So.

1872.—The *Provincial* Hail Ins. Co. was founded at Winchester this year, under respectable auspices, and was a success from the beginning.

It was estimated at this date that not more than $7\frac{1}{2}$ p.c. of the grain crops of the U.K. were insured against hailstorms.

The Rep. of the *General* for this year was particularly instructive:

The hailstorms of 1872 have been both numerous and destructive; the claims upon this So. having been over 30 p.c. in excess of those in any one year since its estab. in 1843, and extended over 22 counties. There were 54 hailstorms recorded as occurring between the 18th of April and 4th of September; from 40 of these claims were made upon this So., and it is a singular fact that nearly every district which suffered the most had taken the least care to protect itself; one instance occurred in our own eastern district, viz. on the 11th July a storm passed over the neighbourhood of Tiptree Hall Farm, the hail and ice fell heavily, and did much damage to a great many farmers, to the extent altogether of about £10,000. A public meeting was called at Colchester to originate a subscription, and the statement then made was, that of all the very numerous sufferers across several miles of the district, *only one person* had availed himself of the advantage offered by insurance, namely, paying fivepence an acre, to secure himself from the loss of his crops.

The uncertainty of hailstorms in the past season has been further shown by one farm insured with this So. being injured by three successive storms, viz. 6th, 24th, and 26th July last, and the crops of three other farms, also insured with this So. in other districts, being twice damaged by hailstorms occurring at different dates.

Experience proves that hailstorms come when and where least expected, the damage being often so very serious as not to leave any crops to harvest; indeed two such cases occurred in the past season, where the So. allowed compensation under such circumstances; besides these, others were reported, but uninsured—hence the necessity for farmers protecting themselves, which can only be done by ins.

The most destructive of the hailstorms last season, so far as claims upon this So. show, happened on the 7th May, 7th and 18th of June, 6th, 7th, 8th, 13th, 24th, and 30th of July, and 7th of August. In settling some of these cases, farmers were allowed from 20 to 32 bushels an acre for damage (the loss upon one farm being 2000 bushels), the compensation amounting in all to several thousand pounds; and your Directors have the satisfaction to report that every claim upon this So., with one exception, was discharged within 3 weeks of the damage being done.

1873.—The Rep. of the *General* for this year contained the following passages:

The hailstorms during the past year have been much below the usual average in number and intensity, and did not occur so early in the season as in 1872, but they were very widely extended, 14 serious hailstorms were reported as damaging crops insured in this office—the same being more or less felt in parts of the following 16 counties, viz. Beds, Bucks, Gloucester, Hants, Hunts, Kent, Leicester, Lincoln, Norfolk, Northampton, Oxon, Suffolk, Sussex, Warks, Worcester, and York.

It is somewhat remarkable that if the full amount of ins. had been effected as usual, this So. would have been called upon to pay much larger sums for damage, for many farmers were but partially insured, and the especial crops omitted and uninsured were those most injured by hail—in other cases old insurers had neglected to renew, and their losses are reported and known to be heavy.

It may interest our agricultural friends and shareholders to know that the average acreage insured during the past season shows a falling off of $6\frac{1}{2}$ p.c. in wheat, $5\frac{1}{2}$ of barley, 6 in oats, whilst beans show an increase of 6 p.c. The total deficiency of acreage as between 1872 and 1873 is 7 p.c.

The nature of this class of ins. necessarily varies owing to the difference of the seasons, and to other causes beyond control or calculation. . . .

It might fairly have been expected that the experience of the preceding year regarding storms would have led to an increased, and not a decreased bus.

1874.—The Rep. of the *General* Co. contained the following:

There were 24 hailstorms in all during the past season affecting the insurers with this So.; the earliest was on the 8th May, and the latest on 2nd September, but the most destructive were those on the 24th June, 24th July, and 10th August. From the latter alone there were nearly 100 claims from insurers occupying farms in 15 counties. The general damage in the entire season affecting this So. extended more or less over 20 counties, and 200 claimants received compensation for damage done, some of them being awarded several hundreds of pounds each. The insurers in the county of Norfolk were amongst those who suffered most; and the general claims paid will show how valuable, although so much neglected, is this class of ins.

In the following counties the amounts paid in proportion to the prems. received at p.c. were:—Huntingdon, 200; Hampshire, 147; Sussex, 138; Berkshire, 120; Bedfordshire, 118; Norfolk, 107; Buckinghamshire, 100; Cambridgeshire, 93; Lincolnshire, 84; Oxfordshire, 70; Worcestershire, 64; Wiltshire, 55; etc., etc.

Again, as in many previous years, it is a fact that many of the old insurers, who had discontinued their ins. with this So., suffered heavy losses, for which they, of course, received no compensation. *Also partial ins. has greatly increased; certain crops being omitted for economical or other reasons.* In many such cases when hailstorms had occurred it was found that the insured crops were but slightly damaged, whilst the crops uninsured were those most injured.

The general loss during the season on corn crops was 85 p.c. of the prems. received, whilst that upon seeds was 105 p.c.; special crops, such as mustard seed, over 500 p.c.; mangel seed, 200 p.c.; turnip seed, 50 p.c., etc., etc.

This enumeration of the vicissitudes of the past season will lead the shareholders to anticipate the announcement that the whole amount of the prems. received last year was inadequate to meet the losses incurred—an event unparalleled in the history of Hail Ins.

This appears also to have been a very unprofitable year for Hail Ins. in France. From the accounts of *L'Abeille*, the only Joint-Stock Hail Ins. Co. in that country, we get the following figures: prems. received £131,418; losses paid £134,362. Adding expenses the loss for the year was £28,578. Up to the end of 1873 the payments had exceeded the receipts by £74,065. The Directors were still very sanguine of ultimate success.

1875.—The Rep. of the *General* Co. for this year contained less than the usual number of details:

Hailstorms did not commence so early as usual—the first one from which claims were made having occurred on 19th May, and the last on 16th Aug., whilst harvest was in full progress, and in many

cases the crops had been secured. One storm in July brought nearly 40 claims extending over the counties of Norfolk, Suffolk, Essex, Cambs, Hunts, Bedford, Lincoln, Northampton, Wilts, and Surrey; and your Directors had much difficulty in obtaining a sufficient number of experienced surveyors to meet such an unexpected emergency.

The So. has again experienced repeated claims upon the same occupations [Farms] by different hailstorms, but the claims being legitimate were admitted and paid.

Reports came this year that the grain crops in several of the provinces of *Russia* had suffered damage from hailstorms.

1876.—The *Travellers Accident* Ins. Co. founded this year announced that it undertook the bus. of Hail Ins.

The Rep. of the *General* for this year gives the following details :

Although hailstorms were not so numerous as usual, and until the middle of July this So. was all but free from claims, yet after that period, successive storms in a few days did immense damage. In isolated districts scarcely any of the crops were left to be harvested; and stock was turned into the fields to feed off the stubble. From these comparatively few hailstorms arose some of the heaviest claims ever made upon the So., especially in Beds, Lincoln, and Northampton. An especial feature presented itself in many instances: parties whose farms had been injured by storms in July were again sufferers and claimants from hailstorms in August.

Amongst the storms unrecorded by this So. are some from which the losses are reported to have been very severe. One particularly so in the neighbourhood of Millichope in Shropshire; where within a limited area upwards of £10,000 damage was done, without one person being protected by ins.

1877.—There were a considerable number of hailstorms in the early months of this year—these early visitations are designated in the Midland counties “Lambing Storms.” On March 22 the neighbourhood of Peterborough suffered severely, the stones being very large. On the 29th of the same month Tottenham, Edmonton, etc., were visited, and considerable damage inflicted. On the 11th April the northern parts of the Metropolis, Hampstead, Highgate, etc., suffered, the storm being accompanied by lightning.

The Rep. of the *General* Co. for this year contained the following :

The hailstorms of the past season have not been of so disastrous a character as in the last two years, although they commenced unusually early, viz. on the 29th March, and ended, as far as claims were made, on the 14th October—hence the season has been a source of long-continued anxiety. The claims in May, July, and August were so numerous, and came from districts so widely scattered, that it severely taxed the surveying powers of the So. to get the claims surveyed and settled as early as usual.

It may interest the shareholders to learn that there has been an increase in the bus. of the year in 19 counties; that the claims have come from 13 counties; and that the greatest sufferers were farmers in the counties of Huntingdon, Northampton, Lincoln, Suffolk, and Norfolk.

The Gov. statistical returns yearly show the acreage of corn grown in England. These, when compared with the acreage insured, make it apparent that not more than 1 acre in 12 is protected by ins., leaving a wide field for the extension of bus., and also proving that agriculturists are still suffering from the effects of bad seasons, inducing so many to be their own insurers, even although the protection offered is at the present low rate of 5*d.* an acre.

A series of interesting and instructive articles upon Hail Ins. appeared in the *Finance Chron. and Ins. Circular* of this year, from which we have quoted in the preparation of this and the following articles.

1878.—There was founded at Spalding (Lincolnshire) the *Agricultural and General Live Stock*, etc., Ins. Co., which undertakes the bus. of Hail Ins.

A circular issued by the *Royal Farmers*, etc., Ins. Co. this year contained the following :

It should be borne in mind that no care whatever can prevent damage by Hail, and that there is no mode of protection other than that now offered [Ins.]. The losses by hailstorms within the last few years, in districts where parties neglected to insure, have been very severe; and many persons were reduced from prosperous circumstances to the painful necessity of availing themselves of public subscriptions: a necessity that might have been avoided by payment of a few pence p. acre.

This year was marked by a series of singularly destructive hailstorms. The Rep. of the *General*, reviewing the events of the year, said :

. Nearly every county in the kingdom has suffered more or less, and in many localities the loss occasioned has been unusually serious. Between the month of May and harvest-time, the surveyors of the So. were engaged in assessing losses in 18 counties; more than double the usual number of pol.-holders having had occasion to call upon the So. for compensation. An especial feature of the past year has been the *wide extent of country covered by a single storm, instead of each visitation being confined as usual to a particular locality*. Storms have been traced continuously over several counties before their force was expended; and again they have to report that in some instances the same fields have been damaged by hail upon two separate occasions. *The storms have even been destructive by night, which, in the experience of the So., is a most unusual occurrence.*

It was observed that on the Continent of Europe the bus. of Hail Ins. was making considerable progress at this date.

1879.—The Rep. of the *General* Co. for this year contained the following :

The 36th Ann. Rep. of your Directors is not quite so satisfactory as could have been desired, inasmuch as the accounts exhibit a diminished income, although only to such an extent as might have been anticipated considering the effect of the late disastrous season to all interested in agriculture, preceded as it was by previous years of deficiency, and also seeing that the Gov. Agricultural returns (1879) report a less quantity of corn grown, and consequently, not so much to insure. The bus. result of the last season shows a decrease in the number of insurers to the extent of about 10 p.c., and of premiums 12 p.c. This falling off is accounted for as already explained; but in addition to this, many thousands of acres were not regarded as worth insuring, it being doubtful whether the same would even repay the cost of harvesting.

Extraordinarily destructive hailstorms have visited nearly all parts of England during the late eventful season, and *night hailstorms* have been unusually numerous, as also the repetition of storms over the same farms and fields. The damage to the crops by hail began as soon as May 16th, and a great storm occurred as late as August 3rd, early in the morning, passing over all the eastern

Company.	1874.		1875.		1876.		1877.		1878.		TOTALS.		Per Centages.
	Premis.	Losses.	Premis.	Losses.	Premis.	Losses.	Premis.	Losses.	Premis.	Losses.	Premis.	Losses.	
Assicurazioni Generali	...	...	1,344,035	1,053,336	1,020,746	612,411	1,385,335	1,120,609	1,404,896	1,363,197	5,155,012	4,149,553	80.5
Runione Adriatica	...	...	...	...	...	...	...	...	...	...	...	...	...
Azienda Assicuratrice	...	...	...	...	1,007,145	...	1,049,428	...	135,512	72,775	135,512	72,775	53.7
First Hungarian	...	...	...	...	312,287	157,944	423,132	610,158	940,194	483,866	2,996,767	1,513,314	50.5
Pester Verichgs. Anst.	207,086	91,960	253,489	353,038	185,910	71,721	198,175	271,684	403,880	277,090	1,599,874	1,132,625	72.0
Austrian Phoenix	133,120	62,698	152,694	149,783	43,279	24,970	64,850	157,941	202,055	114,988	871,954	557,131	63.9
Donau	34,590	21,442	38,773	47,302	43,279	24,970	64,850	49,539	57,554	14,750	239,046	138,003	66.1
Krakauer (Cracow)	...	...	384,807	373,320	451,640	325,628	581,399	434,126	530,222	320,259	1,948,068	1,453,533	74.6
Mährisch-Schlesische	...	...	34,987	44,398	26,836	6,566	82,304	50,712	59,646	17,763	203,833	119,439	58.6
Bohemian Co.	...	...	...	...	...	...	...	...	...	...	...	...	...
Slavia	...	...	...	...	...	...	106,781	49,343	73,531	16,763	180,312	66,106	36.7
Totals.	374,796	176,109	2,208,785	2,021,377	3,047,843	1,618,530	3,891,464	2,744,112	3,807,490	2,682,351	13,330,378	9,242,479	69.3
Per-centage of loss		47%		91.5%		53.1%		70.5%		70.5%		69.3%	

counties, and lasting some hours, from which crops upon hundreds of farms were more or less injured, this Society alone having 98 claimants.

During the entire season 27 hailstorms were registered as damaging crops in 18 counties, and these numerous and frequent visitations produced occasionally excessive demands upon the time and energies of the So.'s several valuers.

The following furnishes an outline of the position of Hail Insurance in other countries:

Austria.—The "Imperial-privileged" *First Austrian Fire*, founded 1824, had a branch for Hail Ins. At the close of 1850 it had risks of this class amounting to £143,637 stg.; while the premis. thereon reached £4502. The losses of that year were but £389, to which add commissions and expenses, and the total debits against the branch were £1204.

There is also existing the *Austrian Hailstorm Ins. Co.*

Portions of this country are reported as being liable to very severe hailstorms.

The accompanying Table gives the results of Hail Ins. in Austria and Hungary by all the leading companies carrying on business there from 1874 to 1878 inclusive:

Belgium.—There was a project on foot in 1847 for the Gov. to undertake the bus. of Hail Ins., but difficulties were felt about the varying nature of the crops, and the mode of valuing in case of partial destruction. It was also said that there were parts of the country which were scarcely ever touched by Hail, and other parts where its ravages were frequent and severe.

France.—We have given an historical outline of this branch of business under title FRANCE, and have referred to it in the early part of the present article, as being the second European country wherein Hail Ins. was practised. The following details are supplemental to the preceding:

The losses by hailstorms in France fluctuate very considerably. In 1830 they were estimated at £1,840,000; in 1845, £2,000,000; in 1850, £480,000; and in the year 1851, £600,000.—See 1876.

1866.—There were 11 Cos. of this class, and these, with one exception, were all located in Paris. Nine of them were mutual and two proprietary. The latter are *L'Abeille*, Paris, and the *Compagnie d'Assurances Générales*. The prem. income of the former for 1866 was 923,148 fr., and the losses 669,070 fr. There was no return of the latter Company. The nine mutual offices, with the results of their business operations, are enumerated in the Table given at the top of the next page:

France—Hailstorm Ins. (Mutual Offices)—1866.

When Founded.	Name of Company.	New Prems. in 1866.	Income.	Amount at Risk.	Claims Paid.
	La Lorraine, Nancy	£	£	£	£
	L'Etoile, Paris .....	.....	2,150	290,056	907
	La Garantie Agricole .....	.....	14,637	1,629,088	15,928
	La Cérés .....	.....	19,143	2,117,800	16,199
	La Culture .....	.....	5,310	453,868	3,922
	L'Aisne .....	.....	7,739	647,524	7,618
	L'Aisne	2986	.....	683,158	2,025
	La Caisse Générale.....	6238	.....	594,314	13,120
	La Province.....	.....	.....	410,785	4,696
	L'Iris	2705	.....	292,977	2,547

1876.—The losses by hailstorms in France (quite irrespective of Ins.) during the four years ending with this were as follows: 1873, 59,324,542 frs.; 1874, 151,578,254 frs.; 1875, 91,844,206 frs.; 1876, 46,680,565 frs.—total 349,427,567 frs.

1877.—This year the sum insured by all the Hail Ins. Asso. of France amounted to 590,789,603 frs.; the premis. or assessments received amounted to 7,132,650 frs.; the losses to 3,111,101 frs.—the results being therefore most favourable.

1878.—This year the total sum insured was 583,751,010 frs.; the premis. or assessments reached 6,893,925 frs.; but the extent of the losses was only partially known when the figures were made up. It was believed the result would be favourable. The Proprietary Co., *L'Abeille* (whose nominal cap. is 8,000,000 frs., in 16,000 shares, on which 100 frs. have been paid p. share, the market value of the shares being 415 frs.), furnished some details. The premis. were 3,635,785 frs., and the loss claims 1,891,997 frs. The rep. says: "The year just passed has been a most favourable one, although the claims were numerous, and notwithstanding the fact that owing to the bad appearance of the crops, and the ravages of phylloxera, the premium income was not greatly augmented. The number of pol. in force was 54,277, showing an increase on the previous year of 1360. Hail fell on 114 days, and affected 6427 of the risks covered by our pol.—some as many as three times. That is, about 1 risk out of 8 affected, whereas it was 1 out of 15 in the previous year."

1879.—For the latest proposal to estab. a Gov. scheme for (*inter alia*) Hail Ins. in France, see GOV. INS. SCHEMES, this date.

The following point in practice came before the French Courts in 1877 or 1878:

The tenant in the occupancy of a farm had insured his grain crops against damage by hailstorms. The lease under which he held his farm provided that on the termination of his tenancy he should leave the straw, the product of the farm, for the benefit of the property. The straw left had been damaged by hail. The point now raised by the owners was that the tenant could be only entitled to such portion of the ins. money as would cover the damage to the crops exclusive of any damage to the straw remaining from the crops; such straw being the property of the owners, to be used only for the benefit of the farm, hence the tenant could have no interest in it, and, consequently, could not avail himself of any ins. thereon, even if he could insure it; but, inasmuch as the ins. money had been paid to him, he was bound to pay a portion of it over to the owners as their indemnification for the damage to the straw, which was their property. The Court of Appeals, reversing the judgment of the Court below, decided otherwise, however, leaving the status of the owners just where it would have been, had there been no ins. by the tenant at all.

Germany.—Under title GERMANY we have given a detailed account of Hail Ins., and at the commencement of the present art. have again referred to it. The following are supplemental details:

1843.—The experience of the *Berlin Hail Ins. Co.*, founded in 1823 as a Proprietary Office, was taken out at this date. It had insured in the 20 years a total of £33,099,000, in 12 or more districts situate entirely in the Prussian dominions; the premis. ranged from .75 (minimum) to 1.5 p.c. The profits during the entire period had been £19,000, or about £950 p.a. The cap. of the Co. was £71,000, of which nearly one-half had been lost in 1839, but was afterwards replaced.

1855.—Herr Wilhelm Lazarus contributed to the *Assu. Mag.* (vol. viii. pp. 49-50) the following details regarding the Hail Ins. Cos. of Germany [see T. on the top of the next page].

In Munich arrangements were being made for the formation of a new Bavarian Hail Ins. Co. with a cap. of 1,000,000 gulden.

1877-8.—These years were regarded as extremely favourable—the losses not exceeding 40 p.c. of the premis. The profits made on the bus. by the Cos. in union was £24,000 net; while the Mut. Asso. *La Norddeutsche* had a surplus of about £25,000.

Name of Co.	Sums Insured.	Prem. Receipts	Losses and Re-insurances.	Int. and Dividends.
<i>A. Stock Cos.</i>	Thalers.	Thalers.	Thalers.	
Magdeburg	unknown	664,614	641,792	o
Cologne	unknown	332,540	356,757	o
Ceres, in Magdeburg	3,554,727	27,612	42,313	4
New Berlin Co.	29,200,000	295,645	336,702	o
Union in Weimar .....	.....	229,969	313,395	o
<i>B. Mut. Asso.</i>				
New Wurtemberg	635,238	.....	7,299	o
Mardemverder	4,362,475	.....	25,228	o
Altenburg	611,287	.....	5,000	o
Leipzig	10,103,721	.....	222,736	o
Erfurt	10,839,150	.....	184,229	o
Hanover (Brunswick)	11,000,000	.....	99,000	o
Newbrandenburg	4,099,950	.....	28,213	o

Holland.—There is a Co. organized especially for this bus.—the *Hailstorm* Ins. Co. of Schwedt; and prob. some others. The *Norddeutsche* (a Mut. Asso. in Germany) transacts a considerable bus. here. [HOLLAND.]

Hungary.—A Co. for Hail Ins. was founded in 1878; and some of the Hail Ins. Cos. of other countries were operating here. [See *Austria*.] With the increasing grain produce this branch of bus. was felt to be a necessity. [HUNGARY.]

Italy.—Hail Ins. is practised here more especially in relation to the grape and other fruit crops.

Great damage was sustained by a storm on 25th August, 1878.

Poland.—A Hailstorm Ins. Co. was founded at Warsaw in 1878. It was reported that some of the largest landowners were the chief promoters of the scheme.

United States.—The first Hail Ins. Co. of which we find any trace in this country was founded in 1870 at Milwaukee, under the title of the *Mut. Hail* Ins. Co. It insures on the cash plan, with prem. notes, and its bus. extends through Wisconsin, Minnesota, Iowa, Nebraska, and Illinois. In 1875 this Co. had 5624 policies in force, insuring 3,127,661 dol., yielding in prems. 36,436 dol.—the losses of the year being 19,406 dol.; the net assets reaching 21,556 dol. In 1879 this Asso. received legis. permission to organize as a Joint-Stock Co. under the title of *Milwaukee Hail* Ins. Co., with a cap. of not less than 50,000 dol.—25 p.c. paid up.

In 1876 the *German-American* Hail Ins. Co. of St. Paul (Minn.) was organized, and is now transacting bus.

The *Union Mut. Hail* of Princeton (Wisconsin) was formed about 1876 under the law for the incorp. of Mut. Ins. Cos.

In 1880 a Mut. Asso. for insuring against storms generally, including hail, was incorp. at Mount Joy (Penn.).

Practice.—In the case of *Mut. Hail* Ins. Co. v. *Wilde*, before the U.S. Courts in 1879, some points regarding appraisement of damage were determined.—See *Ins. Law Journ.* vol. viii. p. 724.

HAIL INS., PRACTICE OF.—The bus. of Hail Ins. (of which the preceding art. contains the hist.) is carried on by the few existing British offices with a fair amount of uniformity in details. It is not an increasing bus., being confined mainly to the ins. of grain, the acreage of which is steadily decreasing. On the continent of Europe Hail Ins. is much more general than in England—we say England, because into the other portions of the U.K.—Wales, Scotland, and Ireland—it does not seem even yet to have penetrated.

The points involved in the practice will be spoken of under their alphabetical heads:

Average Clause.—All Hail Ins. pol. are issued subject to average. If a person insures but half his grain crops, he receives but half the value of the portion destroyed. See **HAIL INS., HIST. OF**, 1842.

Claims.—All claims are to be made on forms provided for the purpose, of which the following is a specimen: 1. Number of Pol. . . . 2. Name and Residence of Insurer. . . . 3. Where Farm situate. . . . 4. The Hailstorm occurred on . . . the . . . day of . . . 18 . . . at . . . o'clock in the . . . noon. 5. What crops are damaged? 6. Which is the nearest Railway to the Farm? . . . 7. If you are likely to be away from home during the following week, please to say what day you will return, in order that the Surveyor may not be prevented from seeing you . . . Signature of Insurer . . . Dated . . . 18 . . .

Note.—The insurer is not required on this form to specify each acre or field that may be damaged, nor the precise extent of loss. See *Notice*.

Commission to Agents.—The ordinary rate of commission paid to agents is 10 p.c. on all premiums. Some of the offices pay an ascending scale for all premiums beyond £50, and again beyond £200.

Compulsory Ins.—Some years ago a nobleman in the Midland counties (and others have done the same) publicly made known his determination not to make any allowance in future to the occupiers of his estates, who might experience losses from hailstorms, and neglect to avail themselves of the security to be obtained by insuring their crops—as he does. Landlords frequently introduce a clause into their agreements with their tenants, stipulating that they insure against loss by fire. *Is it not equally reasonable that they should be called upon, for their own special protection, to insure against damage by hail?*—*Finance Chronicle*, Nov. 1877.

Conditions of Ins.—The following are the conditions now in use:

1. When part only of the corn, seed, or green crop is intended to be insured, each field must be specially described, and its number of acres stated. In case of any omission or misrepresentation in this respect, this Co. shall not be responsible for any damage.

2. Whenever the property insured hereby is insured against hail elsewhere, notice in writing must forthwith be given at the Head Office of this Co., and admitted by endorsement on the agreement, previous to any damage being sustained; and in case of damage, this Co. shall only be liable to pay a rateable proportion thereof. Failing such notice and endorsement, this Co. shall not be liable for any damage whatever occasioned by such hail.

3. Persons insured shall within four days after sustaining any damage by hail, give notice thereof in writing through the Post-Office, addressed "TO THE SEC." . . . stating the time at which such damage occurred, the description of crop damaged, and the number of the policy under which the claim is made. And in case of omission to give such notice, the Co. shall not be liable for the damage sustained.

4. After notice of damage is received, the Co. will send a surveyor to assess the same; and if the surveyor and the insured cannot agree upon the amount, it shall be imperative upon the insured to deliver the particulars of the claim in writing within seven days of the surveyor leaving the same open; such particulars to be sent by post, addressed to the Sec. as above. This being omitted, or in case of a fraudulent or wilful false statement in the claim, the insured shall forfeit all benefit under this policy, and this Co. shall be wholly discharged from all liability on account of such damage.

5. All differences respecting the amount of damage to be submitted to the arbitration of two persons, one to be chosen by the Co. and the other by the insured, whose award, or that of their umpire, to be chosen before they proceed to adjudicate, shall be conclusive and binding on all parties, and may be made a rule of Court. The appointment of such umpire to be by lot from three persons admitted by both the arbitrators to be competent to assess losses occasioned by hailstorms; and if the person so appointed shall refuse to act as umpire, a like course of appointment shall be continued until an umpire has been appointed who will act. The insured refusing to go to arbitration as here provided, after ten days' notice in writing, shall not have any claim upon this Co. for compensation.

6. Should however such damage on corn occur previous to the 15th day of June in any year, it shall not be imperative upon the Co. to proceed to such arbitration before the month of July then ensuing.

7. In case the Co. shall think it necessary to give notice to the insured to keep separate and apart the crop damaged, it shall be imperative upon the insured to do so; and, when thrashed (which must be within three months of the harvesting), to declare the amount of produce thereof per acre.

8. That the crops intended to be insured have received no injury by hail previous to the original or any renewed Proposal for Ins.

9. The Co. shall not be liable for any loss between the time of signing the Proposal and the same being received at the Head Office, and the party taking the Proposal shall be considered for this purpose the agent of the insured. And no mere payment of any renewal premium shall suffice to keep on foot or renew this policy.

10. Compensation for loss will only be made at the market value, not exceeding the imperial six weeks' averages for Wheat, Barley, and Oats, in the *London Gazette* the week before the occurrence of such loss, and for other crops at not exceeding the average ordinary prices in the neighbourhood.

It is seen that the conditions have been much strengthened since 1842. See *Notice*.

Dangerous Districts.—The proposal forms of all the Cos. contain some such notice as the following: "All crops growing within 12 miles of Somersham Railway Station (Huntingdonshire) are charged double the above rates per acre."

Foreign Business.—During the last few years there has been a great desire to obtain Continental agencies from British Offices; as also to enter into re-insurance engagements. It may be sufficient to state here that local knowledge constitutes a very important factor in the safe conduct of Hail Ins.

Glass Risks.—Glass in greenhouses, hothouses, and pits, also of windows and skylights, are also insured against damage by hail at a premium of from 20s. p.c. upwards.

Losses, Adjustment of.—One of the most essential features in the conduct of this branch of business lies in the employment of competent assessors, who, while protecting the interests of their Co., shall yet take a just view of all the facts as affecting the interests of the insured. Promptness of action is a necessity.

Originally the liability of the Co. per acre of crop was limited, but that was altered as early as 1850. Compensation for loss is made at the market value, not exceeding the imperial six weeks' average for wheat, barley, and oats in the *London Gazette* the week before the occurrence of the damage, and for other crops at not exceeding the average ordinary prices in the neighbourhood.

The U.S. Hail Ins. Cos. have a condition that unless the damage amount to one twenty-fifth part (*i.e.* 4 p.c.) of the value of the crop, the Co. shall not be liable to pay, and that the insured shall then pay the cost of adjustment. This is in view of preventing frivolous claims. See *Conditions*; *Notice*.

Notice.—Notice is required to be given to the Head Office of the Co. within 4 days after the happening of the damage; and there is usually some such stipulation as the following:

In every case of damage by hailstorm where a claim is intended to be made, notice as required by the conditions must be sent direct to the Head Office of the Co. within the time there named, and the insured is informed that notice given to any Local Agent will not be held by the Co. as compliance with that condition.

In 1879 the case of *Foster v. Sharp* [Royal Farmers] was before the English Courts. It was an action by a farmer under a Hail Ins. pol. which contained a condition that if notice was not given to the Co. within four days the Co. should not be liable. The plt. did not give notice until 20 days after damage. On claim being then made a correspondence "without prejudice" arose between the plt. and the Agent of the Co., and between the Managers of the Co. and their Agent and Valuers. The question was whether this correspondence amounted to a waiver by the Co. of its strict right to insist on the clause as to notice. The Judge before whom the case was tried with a jury held that there had been a waiver, and gave judgment for plaintiff. This judgment was now reversed on the ground that the Co. had always intended to stand upon its legal rights, and only suspended them in the view of arriving at an amicable settlement. Judgment for the Co.

Proposal Form.—I . . . of . . . in the county of . . . propose to insure against damage by Hail, the Corn, Seed, or Green Crop on my Farm called . . . situate at . . . in the parish of . . . in the county of . . . being the only farm in said parish in which I have any interest, subject to the conditions printed hereon and on the pol. of the said Co.

Description.	No. of Statute Acres.	Rate.	Prem. £ s. d.	Description.	No. of Statute Acres.	Rate.	Prem. £ s. d.
Wheat		5d. p. Acre		SEEDS.			
Barley... ..		" ditto		Beet		10s. p. Acre	
Oats		" ditto		Canary		5s. ditto	
Rye		" ditto		Carraway		5s. ditto	
Vetches or Tares				Carrot		15s. ditto	
(Green)		" ditto		Clover (White or			
Turnips . . (Green)		" ditto		Red)		1s. 6d. ditto	
Rye Grass ... (ditto)		" ditto		Cole or Rape ...		10s. ditto	
Clover ... (ditto)		" ditto		Flax or Linseed		3s. 6d. ditto	
Carrots		" ditto		Kohl Rabi.....		15s. ditto	
Mangel Wurzel (do.)		" ditto		Mangel Wurzel...		10s. ditto	
Beet.....(ditto)		" ditto		Mustard (White)		10s. ditto	
Beans		" ditto		Ditto (Brown)		15s. ditto	
Peas		" ditto		Parsley		5s. ditto	
Beans and Vetches		" ditto		Rye Grass		3s. 6d. ditto	
or Tares (mixed) .		1s. ditto		Sanfoin (Giant			
Kohl Rabi (Green)		6d. ditto		and Common)		2s. 6d. ditto	
Flax, Fibre only ...		2s. 6d. ditto		Trefoil		1s. 6d. ditto	
Flax, Fibre & Seed		5s. 0d. ditto		Turnip (Swedes			
Potatoes.....		5s. 0d. ditto		or White)		15s. ditto	
Buckwheat -		2s. 6d. ditto		Vetches or Tares			
Straw		6d. ditto		(for seed)		2s. ditto	
Insert No. of last Year's Pol. _____				Proposer's Signature _____			
N.B.—A separate Proposal will be required for each separate Farm.				Dated this _____ day of _____ 1880.			

From Agent at

NOTE.—This proposal must be forwarded to the Chief Office, by the next post after being signed, and the prem. should be paid at the time of proposal. Crops already damaged by Hail will not be insured. No total prem. of less amount than 3s. 6d. is to be taken in any case. *Peas, Beans, Potatoes, or Seeds will not be insured except at a special rate, unless the whole of the Proposer's white straw crops are also insured.* Half acres to be charged not less than three pence. Stamp duty paid by the Company.

N.B.—Claim for compensation must be made to the Secretary at the Head Office within four days of the occurrence of the loss by Hail. (*See Condition No. 3 herein.*)

Glass in Green Houses, etc., 20s. per cent. and upwards.

See *Dangerous Districts.*

Rates of Premium.—These are contained in the proposal form, in detail. We observe that the charge p. acre for grain crops has been reduced in the course of the third of a century from 8d. to 5d.: and a new Co. is now offering to take the risks at 4d. This in the face of a tendency to increased severity in the storms of late years hardly seems prudent.

In 1850 the *General Co.* reduced the rates from 8d. to 6d. p. acre "irrespective of produce or price."

Stamps on Policies.—Since 1870 the stamp on Hail Ins. pol. has been 1d. It was originally very onerous, being 2s. 6d. on each £100 insured. In 1865 it was first modified.

HAILSTORMS.—In the two preceding art. we have, by inference at least, indicated the importance of a study of the laws regulating Hailstorms, in relation to the practical bus. of Hail Ins. The fact that certain districts of the country are much more liable to such visitations—or that the visitations experienced are much more destructive in their results—is one which suggests inquiry and extended observation. No solution has, we believe, been yet attempted of the reason why the crops at Somersham in Huntingdonshire and the district 10 miles round should be at least twice as liable to destruction from hailstorms as those at Somersham in Suffolk, and a corresponding radius; yet the fact is undisputed. Certain districts in France have likewise been found especially liable to such visitations. [FRANCE, sub-heading *Hail Ins.*, date 1859, see also later in present art.] We propose then to examine briefly some of the latest investigations into the phenomena of hailstorms.

Hailstorms are always purely local phenomena, and never last long. They often mark their course by linear tracks of devastation, of great length and very small breadth. In the hailstorm which passed across France, 13 July, 1788, two such tracks were marked from south to north, of 175 and 200 leagues in length respectively, parallel to each other, the one four leagues broad, the other two, and separated by a tract five leagues in breadth, in which only rain fell. A similar character is very common, although not to such an extent.—*Encyclo. Brit.*, Art. Meteorology.

Well-defined hailstorms occur only when great differences of temperature exist between the higher and lower strata of the atmosphere. The air near the surface must be warm and moist, and must grow rapidly colder with the elevation. Hence they most frequently occur in summer, near the close of excessively warm days, since then these conditions are the most intensified. For the same reason they seldom occur at night or in winter. A rapid condensation of the moisture of the air, and the almost instantaneous refrigeration of the drops, and their cooling considerably below 32° F., seem to be necessary. Thunder and lightning of great intensity are the invariable attendants of these storms. The thunder is often of long continuance, without any visible lightning. Whether these electrical phenomena are to be ranked among the causes of the hailstorms, or are caused by them, appears to admit of some doubt.—*American Exchange and Review*, July, 1874.

Hail most frequently falls when several bands or layers of dark greyish clouds are visible. In all cases an intense agitation of these clouds is noticeable. The stones soon begin to fall, and at the same time the clouds lose their stratification. Though occurring most frequently in the lower regions of the air, these storms have been noticed at great elevations. Saussure cites a storm that occurred on the glacier of Col du Géant at an elevation of over 11,000 feet, while one of the Swiss guides found hailstones buried in the snow near the very summit of Mont Blanc.

The electrical theory of the formation of hail-clouds is now almost entirely discarded.

While the influence of forests, and the growth of trees generally, is admitted in relation to the fall of rain, it is new to find it also applied to hail. Yet Dr. Fowler, the learned editor of the *Exchange and Review* already quoted, evidently inclines to that belief:

It has been noticed, by repeated and careful observations in France, that whenever a hailstorm, in its progress over the country, comes into a region covered with forests, that, although the trees forming the outskirts of the woods may be stripped by the hailstones, the fall of hail is entirely absent in the main body of the forest. Even when the storm has clearly not yet expended its fury, this cessation of hailfall is noticed, and the forests once passed, the stones fall on the unprotected regions with all their former severity. Now, some have urged that this protective action of the forests is due entirely to the well-known power the trees have of silently discharging the clouds, and thus robbing them of that agent so necessary to the formation of hail. It may, however, be fairly considered an open question, whether the influence of the forests is not of an entirely different kind; whether, certain movements of the air being necessary to the formation of the stone, the forests do not interfere with the freedom of such motion; or whether the trees retard the air sufficiently to cause it to deposit its burden of stones on the outside of the forest; or, decided differences of temperature being requisite for the formation of hail, is the influence of the forests simply that of preventing any very high or very rapid heating of the soil within their area? We are strongly inclined to think that the last explanation is the correct one, although it must be acknowledged that, as yet, the data are insufficient to enable us to come to any satisfactory conclusion. It is, however, a fact worthy of mention, that, of late years, the occurrence of hailstorms in France has been steadily on the increase, and that, in the opinion of competent observers, the increase in the storms has been occasioned by the destruction of the forests. The same thing has been noticed in Italy, where the May hail, now so destructive to the plains of Lombardy, was much less frequent when the Alps and the Apennines were still covered with their virgin forests.

But we need not go from home for examples of this kind. The rapid and reckless destruction of the Pennsylvania forests has apparently brought upon us the scourge of hail, as well as the other scourges which we either are experiencing or are still to experience. *During the last 15 or 20 years, the number and severity of hailstorms in Pennsylvania have unquestionably been on the increase.*

The German physicists have attempted to account for the phenomena of hailstorms as follows: Suppose two layers of cloud: above, one of snow—below, one of rain. Assume that a powerful motion of rotation of the wind about a horizontal axis occurs. These small particles of snow, the nuclei of hailstones, whirled together in the snow cloud, would be carried down into the rain cloud, where they would receive a coating of ice. Still kept up by the whirl, they would be again carried into the snow cloud, and down again into the rain cloud; and so on until the stone, growing too heavy for the sustaining power of the wind, is hurled down to the ground below. A very unusual velocity of rotation must be assumed, in order to account for the movement of the stone

from cloud to cloud, after it has acquired any considerable weight. By centrifugal force, the air in the centre of the whirl would be rarefied, and the drops of condensed vapour become congealed and whirled into the great eddy. At the same time, however, from the diminished pressure in the centre, the intensely cold air from the upper regions falls, or is sucked down into the centre of the immense whirl, and there mingling, but not thoroughly mixing, with the warmer and moister air, allows the hailstones to grow rapidly in size, until they are hurled to the ground. This theory apparently explains the non-occurrence of hail in the tropics; perhaps on account of the regions of cold air being too elevated to admit of being drawn down into the immense funnel-shape depression. It is an exceedingly significant fact, in reference to this theory, that the area over which the hail falls is always considerably smaller than the area of the storm. This is what would be supposed, since, naturally, the greatest deposit of stones should occur near the inner margin of the whirl.

In *Physical Geography, or the Terraqueous Globe and its Phenomena*, etc., by W. D. Cooley, 1876, there is a special chap. on Hail, etc., from which we desire to draw a few passages (p. 371):

Hail, though it resembles snow in being merely water congealed, differs from it essentially and in many respects. Snow exhibits in its delicate, symmetrical forms, the effects of the undisturbed crystallization of vapours suspended in atmosphere. Hailstones, on the other hand, resemble fragments of rough ice, or perhaps flakes of snow collapsed by partial melting, and then frozen in one mass. Snow is the usual consequence of a certain degree of reduced temperature attending change of season; it falls gently, and covering the ground, protects it from intense cold: being at once a progeny and a moderator of low temperature; *but hail occurs more frequently in spring and summer than in winter*, and often falls with destructive violence, doing irreparable injury to fruit trees and vineyards. Being usually the accompaniment of thunderstorms, it is assumed to be an electrical phenomenon. *In Iceland it is particularly frequent during volcanic eruptions.*

Again (p. 376):

Now it is generally admitted that thunder always precedes hail; and electricity alone seems capable of accounting for the one thing required for the production of hail—namely, intense and sudden cold. If the action of lightning in the clouds resembles its action on trees in a forest, if it rends the air and repels it with extreme violence in all directions, the result must be a momentary vacuum, or a dilation approaching to a vacuum, throughout the whole line of electric action. The immediate effect of that dilation must be intense cold, the more intense the more rapid the process; and the humidity immediately involved in it will be congealed, but with a speed and violence incompatible with crystallization. Both Sir J. Herschel and M. Arago state that hailstones are due to sudden and intense cold; and whence can this come but from dilation produced by electricity? Hence the nuclei of hailstones. The cloud around the area of dilatation will be compressed, and thereby brought to a state of saturation. This abundant moisture is quickly gathered by the intensely cold nuclei, which collect ice in falling as long as they retain excess of cold. Falling faster than liquid drops, they grow larger at the lower end; hence they are often pear-shaped. Strong wind might produce the same effect. Thunderstorms over plains always advance in lines of little breadth. No reason can be assigned for the narrowness of hailstorms except their dependence on electricity.

He had previously said (p. 208):

It may be conjectured that for the creation of a violent revolving storm, no condition is more important than the close approach of two currents of air of widely different temperatures, the cold and heavy above, the warm and light below. This is exemplified on the eastern side of *Armenia*, where elevated plains abruptly terminate in deep valleys. As soon as the cold winds from the Caucasus reach the edge of the tableland, hurricanes and *hailstorms* desolate the low country. Though cyclones may occur at all seasons, they are far more frequent in Aug. and Sept., when warm currents of air and vapour prob. reach the greatest altitude, and when the summer atmosphere of one hemisphere and the winter atmosphere of the other are about to change places.

In a letter by Mr. J. A. B. Oliver, addressed to *Nature* [vol. xx. p. 603], there occur the following passages throwing much light upon the severe hailstorm visitations in France (to which many references will be found in the T. which follows):

... I would like to mention three results of obs. on hailstorms in general. It has been observed; (1) that they move over the country in sharply-defined bands; (2) that these long bands have their origin or source in mountainous regions; and (3) that the air previous to the occurrence of the storm is frequently hot and sultry; and that when it has passed the wind feels sharp and cold.

Theorists admit that the generation of hail seems always to depend on some very sudden introduction of an extremely cold current of air into the bosom of a quiescent, nearly saturated mass. Now, bearing in mind the above-mentioned facts, does it not seem prob., or at least possible, that hailstorms may be caused by a current of wind which has been forced over snow-covered mountains, and thus rendered extremely cold, descending into the warm plains beneath, and forcing the hot and saturated air resting thereon into the higher regions of the atmosphere, where the moisture would become congealed into a cloud of ice particles—the condition required for the beautiful theory of the formation of hailstones of Prof. Osborne Reynolds? This would account for the great frequency of hailstorms in Southern France, which country is subject to the influence of both the Alps and the Pyrenees. The above conditions, viz. snow-covered mountains and warm plains, could only occur in this country in winter and spring; and it is found that the greatest proportion of our hailstorms are experienced in these seasons.

The persistent iteration that hailstorms occur more frequently in winter and spring can only arise in the fact that no general T. has heretofore been available for reference, and refutation. The theory of the origin of hailstorms is especially important when applied to some of the American states lying, as it were, at the foot of the Rocky Mountains; as also to some of the South American cities placed at the base of mountain ranges.

We cannot follow the inquiries further. We see it stated upon authority of a chart (by Reclus), of the distribution of Hailstorms, during the seasons, in Russia and England—that some 45 storms occur during the winter in England against 5 in summer: the very reverse, however, is the fact [Dr. Fowler's sagacity led him so to infer], as the following T. will aid in elucidating.

Table of Hailstorms, compiled expressly for this work.

B. C.	Among the Plagues of Egypt at this date was one of Hail, <i>vide</i> 9th chap. of Exodus: "25. And the hail smote throughout all the land of Egypt all that was in the field, both man and beast; and the <i>hail</i> smote every herb of the field, and brake every tree of the field."
1491	
A. D.	
130	. . . <i>England</i> . Storm; stones 12in. about; fatal to people and cattle.
207	. . . <i>England</i> . Hail "bigger than ducks' eggs."
264	. . . <i>Britain</i> . Hail; each stone one pound or above in weight.
334	. . . <i>England</i> . Hail; "stones like goose eggs: fatal to people and cattle."
344	. . . <i>England</i> . Hail; "stones much bigger than hens' eggs,"
459	. . . <i>Britain</i> . Hail in many parts of the country "killed many men and much cattle."
550	. . . <i>Scotland</i> . "Hail like pullets' eggs,"
805	. . . <i>Wales</i> . Hail in southern portion "like hens' eggs."
895	. . . <i>England</i> . Hail in York "like ducks' eggs."
1022	. . . <i>Ireland</i> . A great shower of hail, the stones as big as crab apples; great thunder and lightning which killed an infinite number of cattle.
1134	. . . <i>Ireland</i> (Cashel). A great hail shower.
1179	June 5. <i>England</i> . Hail, lightning, thunder; hurricane.
1190	. . . <i>England</i> . Hail with thunder and lightning.
1205	. . . <i>England</i> . Hail like ducks' eggs; much grain destroyed.
1289	. . . <i>England</i> . The 17 Edw. I. Great hailstorm, followed by heavy rains: so that the year following there was great scarcity of grain.
1351	April 6. <i>France</i> . On Easter Monday hailstones fell so large as to have killed both men and horses forming part of the army of the English King Edward, then invading France. This is asserted by Bailey, and repeated by Stow, who however implies that the men died of the intense cold which accompanied the mist and hail. This day is called in early history Black Monday.— <i>Vincent</i> .
1355-8	. . . <i>Ireland</i> (Carbury). A great shower of hail.
1471	May. <i>Ireland</i> . Great showers of hailstones, with thunder and lightning.
1479	. . . <i>England</i> . Hailstorm in Huntingdonshire; stones 14in. round.
1510	. . . <i>Italy</i> . Hailstorm "destroyed all the fish, birds and beasts of the country."
1527	Dec. 2. <i>Rome</i> . Great hailstorm,
1528	July 19. <i>Augsburg</i> . Great hailstorm.
1531	Dec. 16. <i>England</i> . Great hailstorm.
1535	July 15. <i>Switzerland</i> . Great storm at Zurich.
1537	Dec. 12. <i>Rome</i> . Great hailstorm.
1546	August. <i>Flanders</i> . Great storm at Malines.
1548	Sept. 5. <i>Flanders</i> . Great storm at Louvain.
1554	. . . <i>Ireland</i> . Perpetual rain, hail, a tempest.
1555	Sept. 1. <i>London</i> . Great storm.
1564	. . . <i>England</i> . In Northamptonshire; stones 15 in. in circumference.
"	Jan. 24. <i>Flanders</i> . Great storm at Louvain.
"	July 17. <i>England</i> . Great storm in Essex.
1565	May 20. <i>England</i> . Storm extending into several counties, viz. Dorset, Surrey, Monmouth.
1566	. . . <i>England</i> . 500 acres of grain destroyed in Essex.
"	Dec. 26. <i>England</i> . Great storm.
1574	. . . <i>Ireland</i> . A shower of hail, which swept away good strong houses, and smothered whole flocks and herds.
1578	April 7. <i>Brazil</i> . Great storm.
1584	. . . <i>England</i> . "Stones 8 or 9 inches about."
1589	Feb. 18. <i>London</i> . Severe storm.
"	Aug. 1. <i>London</i> . Severe storm.
1590	Sept. <i>England</i> . Hail, with thunder and snow.
1596	Dec. <i>England</i> . Great storm at Wells.
1626	Mar. 29. <i>England</i> . Great storm.
"	Apl. 25 to 30. <i>England</i> . Great storms.
1636	Jan. 30. <i>England</i> . Hail, with rain, snow, and thunder.
1641	June 25. <i>England</i> . Great storm.
"	Aug. 24 and 29. <i>England</i> . Further storms.
1646	May 4, July 11 and 12, Aug. 17. <i>England</i> . Storms at these dates.
1650	April 29. <i>England</i> . Storm at Leicester.
1651	Aug. 23. <i>England</i> . Dorchester. Stones 7 in. in circumference.
1656	July 20 and later. <i>England</i> . In the County of Norfolk and City of Norwich.

Concerning these storms (for there appear to have been two) there was pub.:
The most Lamentable and Dreadful Thunder and Lightning in the County

1656

of Norfolk and the City of Norwich, on July 20, being the Lord's Day in the afternoon: the Whirlwind and thick darkness, and most prodigious hailstones, which being above 5 inches about, did so violently batter down the windows of the City, that three thousand pounds will hardly repair them. Divers men and women struck dead. The firing of some towns, and whole fields of corn, by lightning, which also destroyed the birds of the air and the beasts of the field.

Together with another most violent Storm, which happened on Saturday last, in the same County, for almost thirty miles together, performed the like terrible effects. Attested by ten thousand witnesses, who were either spectators, or partakers of the loss. Entered according to order, the 31 July, 1656.

London, printed by R. I. for F. Grove, on Snow-hill, 1656. Quarto, containing 5 pages, with a wooden cut in the title-page, representing Jupiter in the clouds, with a thunder-bolt in his right hand. [Vide *Harleian Misc.* vol. vi. p. 422.]

1659

. . . England. Great storm in Staffordshire, destroying poultry and hares.

1661

April 11 and Oct. 11. England. Great storms.

1664

Jan. . . London. Charing Cross.

1666

July 31. England. Hail and rain.

1668

Dec. 17. England. Hail and rain.

1678

Jan. 18. England. Great storm.

1681

May 1. England. Great storm.

1697

April 9. Wales. Stones fell in Flintshire weighing 5 oz.—*Halley*.

„

April 20. England. In Cheshire and Lancashire. "A storm of hail, etc., which killed fowls and small animals, and knocked down horses and oxen; some of the stones weighing half a pound."

— „

April 29. England and Wales. Stones weighing three-quarters of a pound. The astronomer Halley communicated a paper to the Royal So. on this storm.—*Phil. Trans.* No. 229.

„

May 4. England. After a severe storm of thunder and lightning in Hertfordshire, a shower of hail ensued "by which some persons were killed, their bodies beat black and blue, and oaks were split and fields of corn cut down as with a scythe. The stones measured from 10 to 14 in. in circumference; their figures are said to have been various—some oval, others picked, and some flat."—*Gents. Mag.*

Stones in Hertfordshire measuring 14 inches in circumference.—*Robert Taylor*.

1703

May 15. France. At Illiers stones as large as the fist.—*Parent*.

1719

July 3. England. Seighford (Co. Stafford). Hot and clear day; about 2 P.M. clouds suddenly began to rise in the west; a soft shower followed, after which storm from N, about 4 o'clock. Stones of various shapes and sizes, some 11 in. in circumference. "They seemed to be fragments of some cylindrical body of ice broken and dashed to pieces in the fall."—*Gents. Mag.* for this year, where section of hailstone of peculiar formation is given.

1732

May 30. Ireland. Prodigious shower of hail.

1738

Feb. 27. Dublin. A great hailstorm accompanied by thunder and lightning.

„

July 25. England. Great storm in Bedfordshire, Middlesex, and Suffolk.

1740

April. Ireland. Excessive cold, with hail.

1743

July 15. England. Enfield (Middlesex). Stones as big as nutmegs; broke windows, and laid the grain for several miles round. A boy and 2 horses killed by the lightning.

„

July 15. England. Middlesex and Leicestershire.

„

Aug. 19. England. West and N. West. Stones as big as hens' eggs. Church and other windows broken in Tewkesbury to value of £1000; pigeons killed and grain crops destroyed. Same storm felt in Cheshire; great damage to grain crops, which were afterwards fed off by pigs. The storm extended into Gloucestershire, Leicestershire and Warwickshire. In this same storm there fell at Leicester pieces of ice 5 in. long, and many large hailstones, killing hundreds of small birds. The hail blocked the drains, and the town was flooded: tons of ice were gathered in waggons. The storm was compared there to the "breaking of water-spouts."

1744

June 4. England. Great storm in Gloucestershire.

1745

May 11. England. Masses of ice 5 in. in length fell in Yorkshire and did great damage to fruit and grain crops.

1746

June 24. England. Storm in Kent.

1747

July 8. England. Great storm in Gloucestershire and Somersetshire.

1748

June 12. England. Great storm in Berkshire and Surrey.

„

Aug. 23. Wales. Great storm in Glamorganshire.

1749

May 15. England. Great storm in Derbyshire and Worcestershire.

- 1750 July 11. *England*. Storm in Middlesex and Surrey.
- 1751 May 20. *England*. In Yorkshire.
- 1752 July 29. *England*. In Gloucestershire and Somersetshire.
- 1753 May 24. *England*. Great storm at Hoxton near London; windows broken, and trees greatly damaged.
- „ May 30. *Saxony*. Terrible storm in Mersburg and Luzen—the stones of prodigious size, causing much devastation.
- „ May 31. *Rome*. Stones as big as hens' eggs; great devastation to grain and fruit crops. Storm accompanied by hurricane, and shocks of earthquake.
- „ June 2. *England*. Storms at Bridgewater (Somerset). The day had been very sultry, and wind N.W.; began gradually about 6 o'clock; by 7 it was at its height, and stones measuring 6, 7, 8, and 9 inches in circumference were found. Many of these had made holes in the ground like cannon shot. The storm continued nearly half an hour effecting great damage to buildings, trees and grain crops. Broken windows estimated at £500. The storm extended into Dorsetshire.
- „ June 24. *England*. Storm in Middlesex.
- „ July 11. *France*. At Toul stones 3 inches in diameter.—*Montignot*.
- „ ? July. *Bohemia*. Hailstones of enormous magnitude fell at Streckow near Tabor, estate of Prince Labkowitz, destroying fruit and grain for some miles round.
- „ ? August. *France*. Violent storm near Lyons; some of the stones weighing above a pound.
- 1754 June 14. *England*. In Monmouthshire and Gloucestershire there was a terrific storm, some of the stones measuring from 4 to 6 inches in circumference. Grain, windows, and fruit trees were severely injured. The storm was followed by prodigious quantities of rain, flooding the country seriously. At Coventry also there was a great storm.
- „ June 15. *England*. Great storm in Devonshire.
- „ July 28. *England*. Violent storm in Suffolk, with rain and hail; the stones were as large as pigeons' eggs, and inflicted great damage upon the grain and fruit crops. The effect of the storm extended for about 1 mile in length, and half a mile in breadth.
- 1755 May 17. *England*. Storm in Huntingdonshire and Staffordshire.
- „ July 7. *England*. Storm in Kent and Sussex, near Rye. "Hop grounds entirely stripped of all their leaves and branches, the bare poles only left standing; corn and mowing grass beat flat, as if trampled upon by a thousand horses; hedges and fruit trees bruised in such a manner as if purposely and with great force beaten to pieces; hailstones 6 or 7 inches round, and in such quantity as to reach near to the mid-leg; and which, by their continuing on the ground all night, and in many places for several days after, so chilled the earth as to render it very frigid and unkindly."—*Gents. Mag.* Poultry was killed.
- „ Sept. 29. *England*. Great storm in Devonshire, and in Kent and Sussex.
- 1756 May 10. *England*. Storm in Staffordshire.
- 1758 July 9. *Virginia* (Colony of). This storm, which arose about 4 P.M., proceeded from a cloud not more than a mile in length, which (after a storm of thunder and lightning) passed over the town of Williamsbourg to the S.E. The hailstones were of an oblong square form, 1½ in. long, and the sides were ¾ in. wide, so that each would have made two cubes ¾ in. square; from one of the sides sharp spikes protruded at least half an inch. The Governor cooled his wine, and froze cream with some of them the next day, and they were not quite dissolved when he went to bed next night.—*Gents. Mag.*
- 1760 June 28. *England*. Great storm in Cambridgeshire.
- „ July 20. *France*. In the neighbourhood of Auseli and Comminges stones 5 inches in diameter. Men and cattle killed.
- 1761 *England*. June 21. In Surrey.
- June 27. *England*. At Bourne (Lincolnshire), about 5 P.M., it having been very black and cloudy for some two hours, rain began to fall in large drops, succeeded by large hailstones, mixed with pieces of ice of irregular shape, some of which measured 8 inches in circumference; the windows were broken, fruit trees damaged, and grain crops destroyed in a line of about 3 miles in width. The thunder was very severe; and some sheep were killed. The storm extended into Cambridgeshire.
- Aug. 5. *England*. A violent storm at Benfield (Northamptonshire) damaged and destroyed the grain crops. Many of the pieces of ice weighed a pound each.
- Aug. 14. *Scotland*. At Cumbernauld great storm, which killed more than 1000 crows, the bones of which were found broken, and the flesh black.—*Ann. Regis.*

- Sept. 25 *England.* A storm on Enfield Marsh, lasting about 3 minutes, did great damage to trees, fruit, etc., killing birds and poultry. Some of the stones measured 5 inches in circumference.
- 1762 *France.* At Valenciennes a great storm of hail, snow, and rain, accompanied with thunder. The lightning set fire to St. Gray's church.
- Feb. 22 *England.* In Middlesex.
- April 28 *England.* In Yorkshire.
- July 21 *England.* Violent hurricane at Broadway in Worcestershire from S.W. to N.E., tearing up trees by the roots, and beating down a house. The hail devastation extended about $\frac{3}{4}$ of a mile in length and 25 yards in width.
- 1763 *England.* At Harrow, hail and rain, accompanied with lightning and thunder, doing great damage.
- Feb. 26 *England.* Great storm in Essex.
- June 23 *France.* In the province of Macconnois, from the frontiers of Beaujolais to the frontiers of Burgundy, the fruit and grain of 36 villages destroyed—the vines permanently broken.
- „ 26 *France.* At Bensançon, the whole country in some 200 communes laid waste; hailstones as large as fowls' eggs; trees torn up, and people killed and wounded.
- July 15 *England.* Neighbourhood of London, Essex, Hertfordshire, Middlesex, and Kent. Great darkness followed by storm of hail, wind, and rain, driving in the direction of Kent. Poultry and sheep killed, and crops destroyed. Damage estimated at £50,000. The following detailed account of the devastation of this storm in Kent is taken, by permission, from *A Kentish Garland*, now printing:
- Aug. 19 On Friday, August 19, 1763, a storm arose at sea, off the Sussex coast. The morning was still, with scarcely a breeze of air; and so excessively hot, that it was suffocating. About ten o'clock in the forenoon, a black cloud arose towards the west; soon after which the wind blew an hurricane; the clouds came on with amazing velocity, throwing out in their course dreadful flashes of lightning; and the thunder was almost one continued roar. About half-past eleven, the rain poured in torrents, and in a few minutes was intermixed with some detached hailstones, which were very large, as introductory of what were to follow: the hail, wind, lightning and thunder, soon came on so furiously, that all was one dreadful scene of horror. The boughs, branches, and leaves of trees, broken and stript off, flying in the wind, still more darkened the air; the tiles and windows rattling, and dashing to pieces; trees torn up, and falling, struck all with a terror not easily to be expressed; some running distractedly about, wringing their hands, while others stood like inanimate beings. The storm lasted about half an hour. What a scene ensued! An universal desolation everywhere presented itself; some houses filled with water; others, with their barns, blown down; roofs and walls shattered; the windows quite destroyed: the waters roaring in torrents down the streets, plowing up the stones in their course, and leaving deep chasms; the surface of the earth covered with the prodigious hail-stones and water; corn, fruit, and hops destroyed; the fields and hop-gardens everywhere disfigured; trenches formed by the rushing water; the roots of the hops bared, and the poles thrown down in all directions; heaps of stone and sand driven through the hedges; boughs and branches scattered; the fruit-trees stripped of their bark. The smaller animals, such as hares, pheasants, and other game, lay dead in the fields; and a large hog was killed by the hail upon Barming Heath. The larger quadrupeds, endowed with superior instinct, saw their danger; horses, bullocks, and sheep ran, and sheltered themselves from the coming storm. In Maidstone, on one side of the High Street, not only the glass, but the lead and frames, of the windows, were forced in and destroyed, particularly by the hail. It was like fragments of ice, and of very irregular shapes: at Barming, one piece was taken up formed like an oyster; Sir Philip Boteler measured, and found it nine inches round at the extremity: and even ten days after, some hailstones were taken up four inches and a half in circumference. One of the largest struck the stile of an horizontal post-dial of brass, and bent it near thirty degrees towards the east. Posts, bars, and gates had deep impressions from them. They were of different shapes; some flat, irregular, and very much jagged; others an assemblage of pieces of ice; whilst a few were globular, with a small cavity in the centre; and if they were held together, they immediately froze, and were not easily separated. The storm commenced in this county at Tunbridge Wells, whilst the people were at prayers in the chapel, and passed quite across to Sheerness, a distance of forty miles, its breadth not exceeding four miles: the direction of it was from south-west by west, to north-east by east; and it was severely felt in the parishes of Tunbridge, Speld-Hurst, Penshurst, Tudely, Capel, Pembury, part of Hadlow, Yalding, Hunton, Brenchley, Mereworth, East and West Peckham, Watlington, Nettlested, East Malling, Teston, East and West Farleigh, Barming, Loose, Maidstone, Boxley, and Detling; after which its violence was spent, and only little injury was occasioned. Numbers came from all parts to witness the melancholy scene. The inhabitants of the vicinity humanely raised £3000 in a few months, which in some measure relieved the unhappy sufferers: but the cruel effects long remained; most of the hop-hills died; the fibert and apple trees swelled in knots where they had been bruised; and some were so injured, that the branches and shoots long after continued to die: the cherry-trees bore it the best, owing perhaps to the strength of their outward bark.
- The same work contains several poetical pieces on this storm.
- August *Ireland* (Kinnegad). A great storm.
- 1764 *England.* Great storm of hail, rain, lightning and thunder, in Middlesex, Berkshire, Wilts, Oxford, Buckinghamshire, Worcestershire, Hampshire, Essex, Durham, and Yorkshire. Immense damage to fruit and grain crops; also to buildings and live stock. In Berkshire alone damage estimated at £20,000.
- June 23

- June 25 *England.* In Northamptonshire.
 „ *France.* At Douay stones as big as fowls' eggs.
 „ *Germany.* At Heidelberg dreadful; the Electoral Palace fired by lightning, and in great part consumed.
- 1765 *England.* At Lower Brails (Warwickshire) hail, rain, and thunder. Some of the stones measured $7\frac{1}{2}$ inches in circumference; and lay 14 inches deep upon the ground, destroying crops, fruit, poultry, and vegetation generally.
- June 10 *England.* Great storm in Kent; hail and ice lying 3 ft. deep in some places. Crops destroyed; also in Cambridgeshire and Suffolk.
- Aug. 2 *England.* Great storm in Kent; hail and ice lying 3 ft. deep in some places. Crops destroyed; also in Cambridgeshire and Suffolk.
- 1766 *Gibraltar.* Dreadful storm commenced about 4 P.M. Stones of immense size; terminated in a rain storm which flooded the town and caused the loss of many lives.
- Jan. 30 *England.* Great storm at Greenwich; stones very large.
- July 10 *England.* In Yorkshire.
 „ 13 *England.* In Suffolk.
 „ 17 *England.* In Suffolk.
 „ 21 *France.* At Verdun-sur-Garonne. Hail, accompanied by torrents of rain, fell, and destroyed and carried away all the crops not previously gathered. The water courses were thus choked, and a great flood ensued, placing more than 100 houses under water. Trees were uprooted by the force of the hurricane; and the church at Pilleport was blown down and 12 persons killed.
- 1767 *France.* Terrible storm at Valenciennes, which did great damage to houses, trees, grain, and cattle. It began a few miles S.W. of that city, and proceeded in a N.E. direction as far as the province of *Holland*, causing great destruction in its progress—19 villages being more or less destroyed.
- July 20 *Genoa.* Great damage done to this city by hail and lightning.
- Sept. 1 *France.* At Laval great storm; stones resembling fowls' eggs; fruit and crops destroyed, also trees broken and cattle killed. "In some places the hail was found 3 or 4 ft. deep after it fell; damage incredible."
- 1768 *England.* In Hertfordshire and Kent.
 May 9 *England.* In Middlesex and Surrey.
 June 6 *England.* In Wiltshire.
 „ 7 *England.* Great storm in Devonshire and Yorkshire.
 „ 8 *England.* "By letters from different parts it appears that the thunder and hail-storms of last week [1st week in June] were felt more or less throughout the kingdom; and that great damage had been sustained by them. They also reached the Continent, and the Island of Guernsey, where considerable damage was done."—*Ann. Regis.*
 „ 21 *England.* In Northumberland.
 June *England.* In Norfolk.
 „ 14 *England.* In Kent.
 „ 18 *England.* In Somersetshire.
 „ 19 *England.* In Gloucestershire.
 „ 23 *England.* In Norfolk, Suffolk, and Worcestershire.
 „ 30 *Scotland.* At Selkirk, great storm; cattle and crops severely damaged; some persons injured.
- July 9 *England.* In Northumberland.
 „ 14 *England.* In Norfolk.
 „ 18 *England.* In Kent.
 „ 19 *England.* In Somersetshire.
 „ 23 *England.* In Gloucestershire.
 „ 30 *England.* In Norfolk, Suffolk, and Worcestershire.
- Oct. 1 *Scotland.* At Selkirk, great storm; cattle and crops severely damaged; some persons injured.
- 1769 *France.* Great storm at Laval, lasting only 6 minutes, but destroying fruit and ungathered grain, also trees, etc.; in 5 parishes pieces of ice in different shapes fell, some weighing 2 lbs.
- May *Calcutta.* It is recorded that in the month of Muharram [1183 A.H.] such showers of hailstones fell that the whole of that part of the city where the English resided was reduced to ruins. Many of the inhabitants perished. —*Elliot's Historians of India*, vol. viii. p. 229.
- July 16 *England.* At the Isle of Ely. Storm by which 8 farmers were reported to have suffered an aggregate loss of £3000. Some of the hailstones measured 6 inches round; others fell in square pieces, and killed crows, lapwings, etc.—*Ann. Regis.* This storm extended into Norfolk [see *Norfolk and Norwich Remembrancer*, p. 21], and also into Yorkshire.
- 1772 *London.* Great storm of hail during the Sunday afternoon; the congregations in the churches on the south side of the Metropolis in great terror; windows broken, etc., etc.
- Mar. 22 *Sicily.* Great storm at and near Girgenti, during which stones weighing 20 oz. killed great number of cattle, while 84 persons were killed by lightning. "The Commandant of the Castle, in order to dispel the cloud, fired several cannon, but fresh lightning issued from it and killed several of the gunners."—*Ann. Regis.*
- April 18 *England.* In Northumberland and Yorkshire. "Hailstones as large as nutmegs" at Leeds.
- June 20 *Cuba.* St. Jago, "hailstones as large as oranges."
- July 16 *France.* Storm at Belford lasted 12 minutes, and destroyed all the fruit and
 „ 17

- 1772 grain of the district. Some of the stones weighed half a pound. Several persons wounded, glass and buildings damaged.
Same day a storm caused great ravages at Sarguemines, and 29 neighbouring villages of Lorraine; extending also into the principality of Nassau (Rhine).
- July 18 *Saxony.* Violent storm in district of Zittau (Upper Lusatia), destroying all the grain and fruit crops and beating down some ten villages, several of which were utterly despoiled. The stones were of prodigious size.
- July *Holland.* A storm at Brome, in the district of the Zell, not only destroyed all the fruit and grain crops, but "whole villages, besides the loss of their harvest, had all their fowls killed or dangerously wounded, and the cattle of all sorts have suffered greatly. The linen which was spread in order to be whitened [bleached] was torn in pieces, and several persons who were not able to reach shelter were killed or mortally wounded."—*Ann. Regis.*
- 1774 *Saxony.* "Accounts from different parts of the Electorate of Saxony are full of the damage done in that part of Germany by violent storms of hail and snow. Whole districts have been laid waste, and many cattle destroyed."—*Ann. Regis.*
- May
- July 26 *England.* Great storm in Bedfordshire, in Buckinghamshire, and in various parts of Hertfordshire. "It cut off the corn as if with a sickle, and has done incredible damage to the fruit trees, and fruits of the earth, insomuch that many farmers will be ruined."—*Gents. Mag.* Also in Shropshire.
- Aug. 3 *France.* At Alençon, the storm began about noon. At 5 o'clock the thunder became louder and the sky was on a sudden covered with thick black clouds, causing almost entire darkness: in the midst of which there occurred such a dreadful storm of hail that it was at first thought to be a shower of stones. "It broke down all before it, roofs, windows, etc., and wounded all those who were unhappily then in the streets. Hailstones have been found as large as a hat; others measured 18 inches in circumference. A countryman was killed by one of them, and many people were dangerously wounded—18 of whom had the Viatum administered." This storm lasted 45 minutes, and did enormous damage.—*Ann. Regis.*
- 1775
- April 30 *England.* In the Midland Counties, and particularly at Northampton and Buckingham, a storm of considerable magnitude did great damage to fruit trees and windows.
- May 13 *Spain.* In and about Murcia a storm which lasted 20 minutes. Many of the stones were of the size of oranges, weighing a pound and some 20 oz., and the greatest part of them 8 oz. The consequences, it was feared, would be very serious, from the quantity of grain, silk, barilla, etc., destroyed. There are said to be two Spanish Saints famous against Hailstorms, viz. Sts. Emeterius and Chelidonius. When these storms come on, the clergy proceed thus: 1. They make a procession to the church. 2. They put lighted candles on the altar. 3. They sing a hymn to these Saints. 4. They chaunt the antiphona. 5. They sing the praises of these Saints. By the time this chain is linked the storm usually finishes, and thus the efficacy of the proceeding is placed beyond cavil!—*Hone's Every-Day Book*, vol. i. p. 326.
- June 3 *England.* Great storm in Buckinghamshire.
- Sept. 20 *England.* In Oxfordshire and Wiltshire, much damage by hail and lightning.
- 1776 *Lorraine.* At 2 P.M. there fell such a prodigious quantity of hail and rain that in less than half an hour, 99 houses, composing the lower and principal street of the village of Tremont, were entirely laid under water and filled with mud and hail. Several of the inhabitants were drowned or buried under the ruins of their houses; and the rest to the number of 500 would have perished with hunger and cold had not their neighbours given assistance. All the poultry of the village, with 530 head of cattle, which formed the riches of the inhabitants, were destroyed, and the territory laid waste.—*Ann. Regis.*
- Mar. 26
- June 17 *Flanders.* In and about Antwerp a violent storm, with stones as big as fowls' eggs, together with pieces of ice, which not only broke the windows to the south, but destroyed all the fruit. "The hail was so violent that men, horses, etc., were knocked down by it and very much hurt. This storm was also felt at Deschel, Rethy, Arendork, and Diest, on the frontiers of the principality of Liège. Public prayers were soon after offered up to avert such calamities in the future."—*Ann. Regis.*
- June *Ireland.* Clonegal (Co. Carlow). Great thunder shower with lightning and amazing flakes of ice.
- 1777 *Tuscany.* In the province of Muzello a great storm, accompanied by lightning and thunder, and with hail of extraordinary size, which did great damage to the buildings and fruit trees. The devastation very extensive.
- Oct. 15

- 1778 *Ireland.* Great thunder-storms at Tralee, Abbeyfeale, and Clonmel; "the hailstones were as large as musket-balls."
- " *Paris.* A great hailstorm in the vicinity of.
- 1780 *England.* At Warminster (Wilts). The stones measured from 3 to 9 inches in circumference. The same storm was also felt in Oxfordshire with most destructive effect: geese, ducks, and poultry generally were killed, and the utmost destruction to glass ensued.
- June 1 1782 *France.* Stones weighed 8 oz.
- June 17 *England.* In Middlesex.
- Sept. 23 1782 *Madrid.* Some of the stones weighed a pound; damage to windows estimated at £6000.
- 1784 *France.* July 18. Pyrenees; some of the stones weighing 18 oz.
- 1785 *England.* June 12. Great storm in Cambridgeshire and Suffolk.
- June 16 *England.* In Yorkshire.
- " 25 *England.* In Sussex.
- July 1 *Paris.* Severe storm.
- Sept. 12 *England.* Great storm in Cumberland, in Hampshire, and in Warwickshire.
- 1786 *Ireland.* Arklow, Coolgraney, and Redcross (Co. Wicklow), visited by thunder-storm, "succeeded by a tremendous shower of hailstones, which killed a number of lambs, and wounded many persons."
- 1786 *Italy.* July 17. "Stones as big as hens' eggs."
- Aug. 16 *England.* North Shields.
- Sept. 12 *England.* Great storm in Hampshire.
- 1787 *Normandy.* Aug. 4. "Stones as big as hens' eggs."
- Aug. 19 *Italy.* The City of Como and district, stones weighing 9 oz.—*Volta.*
- " *Dublin.* A most violent hailstorm.
- 1788 *England.* July 13. Great storm in Cheshire.
- July 13 *France.* Almost total darkness prevailed in many parts of the country; this was followed by a hurricane of wind, rain, hail, lightning and thunder. The hail worked the greater destruction. "The whole face of nature was so totally changed in about an hour . . . instead of the smiling bloom of summer and the rich prospects of forward autumn . . . it now presented the dreary aspect of universal winter. . . . The soil was changed into a morass, the standing corn beaten into a quagmire, the vines broken to pieces, . . . the fruit trees of every kind demolished. . . . The hail was said to be composed of enormous solid and angular pieces . . . some of them weighing from 8 to 10 oz. Even robust forest trees were incapable of withstanding the fury of the tempest."—*Ann. Regis.*
- Neighbourhood of Paris. "The country for many square leagues is laid wholly waste, and the fruits of the earth so totally eradicated that no harvest can be expected this year. His Majesty's hunting seat has shared the common ruin. . . . He was witness to what fell, which could not be called hail: they were enormous pieces of ice of several pounds weight, by which lambs, sheep, and even cows, were killed and many people dangerously wounded."—*Gents. Mag.* The Archbishop of Paris issued a mandate recommending all rectors, vicars, and curates in his diocese to make the largest collections possible on account of the sufferers. The King created a lottery on a large scale for a like object. [LOTTERIES.]
- In connexion with this storm the following is on record:
- Some of the farmers who have been offered considerable sums to indemnify them for their losses, and to encourage them to carry on with spirit the cultivation of their lands, with new seeds, new implements, etc., have peremptorily refused, on account of a foolish report that prevails in some parts of the country where the storm happened. They say that two giants were seen peeping out of the clouds, and threatening with terrible countenances, gigantic frowns and high-sounding words, that they would return next year, on the same 13 July, with greater scourges than the present one. Terrified either at the report, or at the fancied sight of the giants, which terror and a weak brain will often produce, many of the unhappy sufferers have abandoned their houses and turned beggars.
- "This story (says the correspondent of the *Gents. Mag.* vol. 58, part 2), though hardly credible, may be depended on as fact."
- "Hail fell as large as a quart bottle; and all the trees from Vallence to Lisle were torn up or destroyed."—*Local Journals.*
- Some of the peculiarities of this most remarkable storm have been noticed in our introductory remarks. The damage resulting was estimated at 5,000,000 frs.
- 1789 *England.* Great storm in Cambridgeshire.
- July 22 *England.* At Amersham (Bucks), great storm of hail which fell with such violence as to kill birds, destroy fruit trees, crush garden frames, and accomplish similar damage on a large scale. The storm extended into Suffolk and Leicestershire.
- Aug. 3

- Aug. 22 *Scotland.* Great storm at Kelso and Hawick, accompanied with angular pieces of ice which fell in great abundance, doing much damage.
- 1790 *Scotland.* At Monymuch, ice in angular pieces, about the size of a musket-ball, fell to the depth of 3 ft., doing much damage to vegetation of all kinds.
- July 30 *England.* In the neighbourhood of London, and in Hampshire and Wiltshire, a great storm of hail.
- Nov. 21 *England.* In the neighbourhood of London, and in Hampshire and Wiltshire, a great storm of hail.
- 1791 June *England.* Several violent storms.
- „ 18 *Italy.* Violent storm.
- July 18 *England.* Great storm in Berkshire, Gloucestershire, and Wiltshire.
- Aug. 3 *England.* In Leicestershire.
- Sept. *Naples.* Calabria. Stones weighing a pound; vines destroyed.
- Oct. 22 *England.* In Kent and Sussex.
- „ 26 *England.* In Cornwall.
- 1792 *England.* Great fall of hail between Gravesend and Chatham, extending over a district of 2 miles only.
- April 12 *England.* In Northumberland.
- June 23 *England.* In Lancashire.
- July 17 *England.* In Lancashire.
- 1792 *Ireland.* Neighbourhood of Dublin. Hailstones of uncommon dimensions fell, accompanied by awful claps of thunder.
- 1793 *Jamaica.* July 2. Stones as large as pigeons' eggs.
- Aug. 7 *England.* In Leicestershire.
- 1794 *England.* June 3. Great storm in Berkshire.
- June 11, 12 *England.* In Middlesex.
- July 6 *England.* Great storm at Albourne (Wilts); some of the stones measuring 5 inches in circumference.
- Aug. 7 *London.* Great storm of rain and hail, causing much damage.
- 1795 *England.* *May 18. Great storm in Essex.
- June *England.* Great storm in Wiltshire, by reason of which a great number of newly shorn sheep perished from the cold to which they were exposed. Also in Herefordshire, Middlesex, and Monmouthshire.
- June 12 *England.* Essex and Herts suffered severely.
- Aug. 5 *England.* In Lancashire.
- „ 21 *England.* In Surrey.
- 1796 *England.* June 16. In Lancashire.
- Nov. 5 *England.* At Norwich, severe hailstorm, which appeared impregnated with lightning. "An awful and singular hailstorm occurred at Norwich. Two very vivid flashes of lightning illuminated the southern and northern hemispheres, succeeded by heavy peals of thunder, while the hail, which fell profusely, appeared impregnated with fire."—*Gents. Mag.*
- 1797 *London.* Great damage in the suburbs; and same day at Lewes (Sussex).
- May 6 *England.* Another severe storm.
- June 5 *England.* In Sussex.
- Aug. 5 *England.* Aug. 16. Great storm in Gloucestershire and Somersetshire.
- 1799 *England.* In Oxfordshire and Bedfordshire, irregular pieces of ice. Hares and partridges killed in the fields.
- 1800 *England.* At Woburn and other parts of Bedfordshire a storm of great severity (after a very hot afternoon). Some of the stones measured 9, 10, and 11 inches in circumference.
- Aug. 19 *England.* In Lincolnshire and Rutland.
- „ 22 *England.* July 16. In Oxfordshire.
- Sept. 10 *England.* Aug. 10. In Leicestershire and Warwickshire.
- 1801 *England.* Great storm in Durham and Northumberland.
- 1802 *England.* In Northumberland.
- Aug. 24 *London.* The Haymarket and several adjoining streets suffered terribly from a hailstorm—windows being demolished wholesale. In no other part of London was any damage sustained by this storm.
- „ 28 *England.* In Lincolnshire and Rutland.
- 1803 *England.* May 4. Great storm in Cheshire and Lancashire.
- June 9 *England.* In Lancashire and in Wales (Montgomeryshire).
- July 21 *India.* Several storms in Allahabad.
- 1804 *England.* Great storm in Cornwall.
- May 8 *England.* June 28. In Middlesex.
- Early *England.* In Northumberland.
- Nov. 1 *England.* June 6. In Worcestershire and Herefordshire.
- 1805 *England.* In Rutlandshire.
- July 30 *England.* In Suffolk.
- 1806 *England.* In Middlesex.
- July 7 *England.* In Somersetshire.
- „ 22 *Dublin.* Aug. 9 and 21. Great hail showers.
- „ 24 *Dublin.* Aug. 9 and 21. Great hail showers.
- Aug. 29 *Dublin.* Aug. 9 and 21. Great hail showers.
- 1806 *Dublin.* Aug. 9 and 21. Great hail showers.

1807	<i>England.</i> Great storm in Suffolk, also in Cumberland, Lancashire, and
May 2	Leicestershire.
" 10	<i>England.</i> In Staffordshire.
" 26	<i>Brunswick.</i> A district of nearly 30 English miles was laid waste. The stones were about the size of an ordinary fowl's egg.
1808	<i>England.</i> July 13. In Somersetshire, and in Gloucestershire.
July 15	<i>England.</i> In Oxfordshire, and in Somersetshire. Stones measured 6 or 7 inches in circumference.
" 16	<i>England.</i> Great storm in Gloucestershire and Somersetshire.
Aug. 16	<i>England.</i> Great storm at Bristol, with destructive hail shower, consisting of masses of ice, many of them from 3 to 9 inches in circumference. The tempest arose in the S.W., and passed away in the N.W. The destruction of glass was enormous, as also of trees.
1809	<i>England.</i> March 28. In Sussex.
May 18	<i>England.</i> Great storm in Essex and Middlesex.
1810	<i>England.</i> July 15. Great storm in Berkshire and Middlesex.
Aug. 4	<i>England.</i> In Cumberland.
" 14	<i>London.</i> Great storm and much damage in the N.W. districts.
" 15	<i>England.</i> At Windsor, great destruction by unusually large stones.
1811	<i>England.</i> In the neighbourhood of Worcester, in the afternoon, lasting about half an hour, a storm with stones of enormous bulk fell, destroying vegetation, and perforating the windows like bullets. It passed westward with equal fury. Great flood followed.
May 28	<i>England.</i> In Yorkshire; also in Suffolk.
June 5	<i>England.</i> In Worcestershire.
" 8	<i>Leitrim</i> (Ireland). A great storm of rain and hail destroyed the crops.
Aug. 3	<i>England.</i> May 17. Great storm in Cheshire.
1813	<i>Wales.</i> Great storm in Glamorganshire.
June 9	<i>England.</i> In Bedfordshire great storm of hail, etc.
Oct.	<i>England.</i> At Stamford and parts of Leicestershire violent storm; stones as big as hens' eggs; windows and window frames beaten in, and grain and fruit crops destroyed.
1814	<i>England.</i> In Warwickshire.
July 28	<i>England.</i> Aug. 6. Great storm in Berkshire.
Sept. 1	<i>Bavaria.</i> All the crops and produce on the banks of the Danube, near Munich, destroyed for a circle of 10 leagues.
1815	<i>Germany.</i> Near Vibbel (Frankfort), dreadful hurricane, tearing down trees and buildings. "The hail lay 2 ft. deep in the streets and fields. It was so dark as to be necessary to use candles."— <i>Ann. Regis.</i>
1816	<i>Hungary.</i> Dreadful storm at the town of Worschetz. Of the 2600 buildings of which the town was composed a great many were seriously injured.
June 10	<i>England.</i> Great storm in Cumberland, Staffordshire, and Lancashire; great destruction of crops, trees, and glass.
" 28	<i>England.</i> The counties of Cumberland and Westmoreland visited with severe storms.
July 11	<i>Ireland.</i> Feb. 27. A hurricane, with heavy hail.
" 21	<i>England.</i> Great storm in Gloucestershire, and Wiltshire.
Aug.	<i>England.</i> In Somersetshire.
1817	<i>England.</i> In Middlesex.
June 21	<i>England.</i> April 26. Great storm in Bedfordshire and Middlesex.
" 23	<i>England.</i> Great storm in Cumberland.
July 28	<i>England.</i> In Norfolk.
1818	<i>England.</i> July 4. In Yorkshire and in Norfolk.
July 19	<i>France.</i> In the arrondissement of Montagis, terrific storm destroying all fruit and grain crops within 20 leagues. Two days afterwards stones were found of the size of a fowl's egg. The damage was estimated at over 4 millions of francs—£170,000.
" 27	In other parts of France there had also been very destructive storms.
1819	<i>England.</i> The town of Dereham, in Norfolk, visited between 2 and 4 P.M. with a severe storm; great damage to crops, trees, gardens, and glass.
July 7	<i>England.</i> In Lincolnshire.
" 13	<i>Ireland.</i> Great thunder and hailstorm in Co. Kilkenny; extensive injury to potatoes and corn.
" 24	<i>England.</i> July 30. Great storm in Essex.
Sept.	<i>England.</i> In Norfolk, Suffolk, Shropshire, and Sussex.
1820	<i>Germany.</i> May 7. At Bonn stones weighing from 12 to 13 oz.— <i>Dr. Noggerath.</i>
July 31	<i>England.</i> In Middlesex.
1822	<i>England.</i> In Worcestershire.
May 25	<i>England.</i> June 5. Great storm in Buckinghamshire.
" 30	<i>England.</i> May 22. In Somersetshire.
1823	
1824	

- 1824 *England.* June 20. Great storm in Cheshire.
 July 14 *London and vicinity.* Great thunder and hailstorm. Also in Essex and Hertfordshire.
 Aug. 3 *England.* In Suffolk.
 Aug. *Ireland.* Great hailstorm in the counties of Carlow, Kilkenny, and Wexford ; numbers of small birds were found dead.
 1825 *Ireland.* July 10. Londonderry visited by dreadful hailstorm.
 1826 *England.* June 12. In Sussex.
 June 18 *England.* Great storm in Buckinghamshire.
 „ 27 *England.* In Hertfordshire.
 „ 28 *England.* Great storm in Berkshire, Essex, Middlesex, Shropshire, and Surrey.
 1827 *England.* May 1. In Surrey.
 July *France.* A great hailstorm, injured vines and grain.
 Aug. 17 *England.* In Suffolk.
 1828 *England.* September 12. In Kent.
 1829 *Spain.* In Cazorta blocks of ice weighing nearly 5 lbs. fell during a hailstorm
 June here. See 1844.
 July 14 *England.* In Kent.
 „ 31 *England.* In Lincolnshire ; also in Sussex.
 1830 *England.* June 25. In Norfolk and Suffolk.
 July *Ireland.* This month was exceedingly unnatural, with hail, rain, and storm.
 Aug. 17 *England.* In Suffolk.
 1830 *France.* The losses from storms during the year were estimated at £1,840,000.
 1831 *England.* May 28. In Hertfordshire.
 1832 *England.* June 16. Great storm in Essex ; also in Staffordshire.
 Aug. 18 *Ireland.* Heavy hail in Co. Londonderry, damaging crops and killing small birds.
 1833 *England.* Great storm in Bedfordshire, also in Leicestershire and Lincolnshire.
 1834 *England.* May 31. In Lancashire.
 June 21 *England.* In Sussex.
 July 5 *England.* In Norfolk.
 „ 31 *England.* In Suffolk.
 Aug. 22 *England.* In Cambridgeshire.
 1835 *England.* June 10. Great storm in Cambridgeshire and in Leicestershire.
 July 10 *England.* Great storm in Derbyshire.
 „ 11 *England.* Great storm in Essex.
 1836 *England.* July 4. In Hertfordshire and in Wiltshire.
 July 6 *England.* In Middlesex.
 1837 *Dublin.* July 30. A violent shower of hail, accompanied by loud thunder.
 1838 *Ireland.* April 18. A great hurricane on the north coast, with much hail and snow.
 July 4 *England.* In Lancashire and Yorkshire.
 1839 *England.* June 18. In Middlesex.
 June 20 *England.* In Lincolnshire, Northamptonshire, and Worcestershire.
 July 7 *England.* Great storm in Berkshire, Surrey, and Sussex.
 1839 *Germany.* A succession of hailstorms this year nearly ruined the Hail Ins. Asso. Mut. and Proprietary. See GERMANY, *Hail Ins.*
 1841 *England.* May 28. Great storm in Berkshire and in Suffolk.
 July 15 *England.* Great storm in Derbyshire, in Middlesex, in Sussex, in Surrey, and in Yorkshire.
 Oct. 18 *England.* Great storm in Essex.
 1842 *England.* April 28. Great storm in Hampshire.
 May 27 *England.* In Nottinghamshire.
 June 1 *England.* In Yorkshire.
 „ 2 *England.* In Nottinghamshire.
 „ 25 *Wales.* Great storm in Glamorganshire.
 July 20 *England.* Great storm in Essex.
 Aug. 10 *England.* In Yorkshire.
 „ 29 *England.* In Middlesex.
 „ 31 *England.* Great storm in Cornwall ; also in Norfolk.
 1843 *England.* May 28. In Middlesex.
 June 10 *England.* In Derbyshire.
 July 5 *England.* In Derbyshire and Yorkshire.
 „ 6 *England.* In Gloucestershire.
 Aug. 7 *England.* In Cambridgeshire.
 „ 9 *England.* Great storm in Bedfordshire ; also extending into the following counties : Berkshire, Essex, Gloucestershire, Hertfordshire, Kent, Oxfordshire, Suffolk, and Norfolk. In this latter county the devastation of crops was so great that a voluntary county-rate was made in favour of the sufferers. Out of these events sprang the *General Hailstorm Ins. Co.*

- 1843
Aug. 9 In Oxfordshire the damage to the crops resulting from this storm was estimated at "considerably over" £30,000; and a Hailstorm Relief Fund was founded, by means of which some substantial aid was afforded to the sufferers. There was pub.: *Memoir of the Hailstorm that occurred in the County of Oxford on Wednesday, Aug. 9, 1843, read before the Ashmolean So. in the University of Oxford, on Nov. 20, 1843, by the Rev. John Jordan, Vicar of Enstone, Oxon.* 12mo. pp. 28.
- The only previously-existing Hailstorm Ins. Co.—the *Farmers and Gardeners*—increased its rates considerably after this storm.
- This is one of the most widely extended storms on record. It commenced at Cheltenham, and extended its ravages across the island. The stones were not as large as in many previous cases—8 inches in circumference being the largest spoken of; the average being 6 inches.
- 1844
Oct. *South of France.* Hailstones weighing 11 lbs.
- Note.—M. Huc, the celebrated missionary, speaks of a storm on the Mongolian plateau, wherein a mass of ice fell of the size of a *Millstone*!
- 1845
" *Ireland.* May. Hail showers of more than ordinary weight.
- 1846
" *France.* The losses this year were estimated at £2,000,000.
- June 24 *Ireland.* March 18. In Waterford great hailstorm.
- Aug. 1 *Ireland.* Great hailstorm in north-west districts.
- England.* Great rain and hailstorm visited various parts of England.
- Upwards of 7000 panes of glass were broken at the Houses of Parl.; 300 at the Police Office, Scotland Yard; other buildings in the Metropolis suffered severely. The glass in the Picture Gallery at Buckingham Palace was totally destroyed, and the apartment flooded.
- 1850
April 18 *Dublin.* Visited by one of the most terrible hailstorms ever recorded, attended with great thunder and lightning. The hailstones were an inch in diameter. "This appears to have been a true whirlwind." A similar storm passed over Mullingar about an hour and a half previously. Property to the value of £27,000 was destroyed in Dublin.
- 1850
Aug. 13 *France.* The losses this year were estimated at £480,000.
- 1851
" *Limerick* (Ireland). A violent storm; much hail and sleet.
- 1862
Sept. 2 *France.* Losses estimated at £600,000.
- 1863
Sept. 2 *England.* Great storm in Somersetshire; hailstones accumulated 6 or 7 feet deep; severe damage.
- 1863
Sept. 12 *England.* In Berkshire, near midnight, a most destructive hail-storm, near East Illsley (taking a north-easterly direction), effected great damage to grain crops cut, but not carted, as also to glass and fruit. The storm was accompanied with lightning, killing sheep and cattle. Rabbits, partridges, and many small birds were found killed by the hail.
- 1865
May 9 *England.* There were destructive storms in Cambridge, Huntingdon, Norfolk, and Oxford; and severe ones in other counties.
- France.* Catelet (Department of Aisne). In a tract of meadow land $1\frac{1}{4}$ mile in length, and about 2000 ft. broad, there fell during the storm on this day a quantity of hail, which was estimated as equal to 21,000,000 cubic feet of ice, approximating to 630,000 tons in weight.
- 1867
1868 *England.* May. Several destructive storms occurred in various parts of Eng.
- April 27 *England.* A very severe storm. There were 8 other storms more or less severe during the year.
- 1869 *England.* May 19. A storm, the effects of which extended over parts of 8 counties.
- June 15 *England.* Another storm which extended over portions of 14 counties.
- 1870 *England.* June 16 and 17. Severe storms of short duration, but great destructiveness, on each of these days.
- 1871 *England.* April 17 to Aug. 18. Nineteen severe storms visited different parts of England between these dates inclusive, viz. two in April, one in May, four in June, nine in July, and three in August. The most destructive were in July.
- 1872 *England.* April 18 to Sept. 4. There were 54 storms between these dates inclusive—some of them of a very destructive character.
- July 11 One of these visited the Eastern part of Essex, and inflicted damage on the grain crops to the extent of over £10,000. A public subscription was started at Colchester.
- 1873 *England.* April to Sept. There were 14 more or less serious storms during this period, extending their damage into 16 different counties.
- " *France.* Losses estimated at £2,372,971.
- 1874 *England.* May 8 to Sept. 2. There were 24 storms during this period—the most severe being on 24 June, 24 July, and 10 August. The damage extended over 20 counties.
- " *France.* The losses were very serious this year.

1874

July 4

United States. In Bergen County, State of New Jersey, while the inhabitants of the village of Westwood were celebrating the "nation's birthday," a sudden darkness came over the scene of festivity, and the village was wrapped in a mysterious gloom. Before the holiday-makers had time to disperse, down came the hailstorm on their heads. Hailstones, $2\frac{1}{2}$ inches in diameter, and as hard and heavy as cobble stones, rattled down in a furious shower from the sky. Hens and chickens were killed in large numbers, and the bodies of cows and horses, stunned by the descending volley, lay prostrate in every direction. One young lady was frightfully lacerated on the wrist and arm by one of the hailstones, and was conveyed home insensible with great difficulty by her friends and relatives. A large building in the village was almost demolished, every pane of glass was broken, and the hailstones broke through the roof as though they had been cannon balls. The storm covered an area of about 25 miles, leaving a desolation like that of a battle field. Every tree was stripped of its fruit, grain fields of rye and corn were destroyed, and all hopes of hay this season utterly extinguished. The shower continued 30 minutes, and in this short time effected damage to the extent of many thousand dollars. The hailstones on an average were the size of turkey's eggs, and of every conceivable shape, with sharp corners and edges which cut like knives. The thunder and lightning were incessant.

Nov. 19

Scotland. The City of Glasgow had a severe visitation, of which the following account is taken from the *Glasgow Evening Star* :

Almost without warning a cloud-bank descended over the streets, transforming the light of a fair November day into nightlike gloom. One or two vivid flashes of lightning, succeeded by loud peals of thunder, were quickly followed by a storm of hail, which, though its duration was less than 5 minutes, was sufficiently heavy to cover the ground to a depth of an inch and a half. The hailstones were remarkably large, many of them apparently being fragments of ice. Others were as large as marbles, and descended in places with such force as to break panes of glass.

For five minutes, another Glasgow paper says, the village of Holytown was enveloped in midnight darkness, and the people set a crying, thinking that Doomsday had arrived. In other Lanarkshire towns there were brief periods of darkness.

France. Losses estimated at £6,063,130.

1875

England. May 19 to Aug. 16. There were many storms during this period, the most destructive being in July.

June 11

England. In Surrey, Buckinghamshire, etc., about mid-day, a very severe thunderstorm, with heavy rain and hail; in a short time the hail covered the ground to about an inch deep, causing great destruction amongst the tender foliage. In the woods the lime trees looked as if they had been riddled with grapeshot, and in the kitchen garden the leaves of the trees upon the walls facing the blast were completely riddled. Lettuce and celery looked as if a flock of sheep had been pasturing amongst them, they were so cut up; and peas fit for pulling looked as if they were well hammered. The farmers' field beans and young turnips suffered severely. A great amount of damage done in the neighbourhoods of Dorking and High Wycombe.

July 7, 8

Switzerland. In the Val de Travers, Geneva, and elsewhere. The following account from the *Journal de Genève* relates to the storm of the 8th only—that from which the city suffered most. This storm appears to have begun in the Department of Ain, and thence it took an easterly course up the valley of the Rhone to Geneva. Reaching the city, it then spread over a wider area, and directed its course towards Savoy. At Geneva, as midnight came on, the heat was suffocating, and not a breath of wind swept over the surface of the streets; but, higher up, light objects on the roofs of the houses began to be whirled about and carried off as by a tempest. At the same time a dull, rumbling sound, resembling neither wind nor thunder, announced the approach of the storm, and at midnight exactly it burst over the city in all its fury. An avalanche of enormous hailstones, with no trace of rain, was precipitated from the clouds, and shot against opposing objects by a tempest of wind from the south-west. In a moment the street lamps were extinguished, and in a brief interval incredible damage was inflicted, the glass and tiles of houses were smashed to powder, trees stripped of their bark on the side facing the west, and crops of every sort were in many places all but destroyed. The smallest of the hailstones were the size of hazelnuts, many were as large as walnuts and chestnuts, and some even as large as a hen's egg. Some of the hailstones measured four inches in diameter, and six hours after they fell weighed upwards of 300 grammes. For the most part the hailstones were of a flat or lenticular form, with a central nucleus of 0.16 to 0.40 inch

- 1875 diameter, enveloped in several concentric layers of ice, generally from 6 to 8, alternately transparent and opaque.
- The electrical phenomena were very remarkable; the flashes of lightning succeeded each other with such rapidity, from midnight until a few minutes after 1 A.M., that a mean of from 2 to 3 were counted each second, or from 8000 to 10,000 per hour. Electrical phosphorescence was very intense before and during the hail. The ground, animals, and prominent objects, as well as the hailstones, were strongly phosphorescent. Immediately after the hail, ozone was largely developed, the smell being so perceptible as to be compared by nearly all observers to that of garlic. The incessant electrical discharges passed from cloud to cloud, over a central point from which the hail fell, but thunder was very rarely heard.
- 1876 *France.* Losses estimated at £3,673,768.
- England.* July and Aug. The storms were few in number, but very severe during these months. Damage to crops to the extent of more than £10,000 was occasioned in one section of Shropshire.
- 1877 *France.* Losses estimated at £1,867,222.
- England.* March to Oct. The storms commenced very early this year—these are designated “Lambing Storms.” On the 29th March a most severe storm visited the northern districts of the metropolis, effecting great destruction of glass. They continued down to an unusually late period of the year.
- 1878 *England.* May to Sept. The storms were of singular severity, and of unusually wide extent—traversing several counties before their force was spent. Several of the storms occurred at night—a very unusual occurrence.
- May 20 *Texas.* The City of San Antonio was visited with a storm, of which the following details are taken from the *Express* of May 21:
- “Our city is a perfect wreck; every house in it has received some damage; many are in complete ruins, with nothing but fragments of walls standing. The hailstones penetrated the best roofs, going through tin roofs like cannon balls. All the windows facing to the north have been smashed in; even windows, shutters, and doors were broken down. The appearance of the city could not have been worse under a severe bombardment. The roofing of the entire city is perforated like a sieve. The hailstones were of irregular shape and all sizes, as if a mass of ice had broken above our devoted heads, and been driven by a tornado to the earth. One hailstone was found weighing over 5 pounds, while a great many as large as a man's fist were picked up. Many of the families whose houses were beaten down took shelter under beds and tables, and thus escaped bodily harm. We have only heard of one death, a negro boy; several had limbs broken and were severely bruised, while the whole population was frightened almost to death. The damage is of every character, and 500,000 dollars will not cover it all. The corn patches and gardens are flattened to the ground, and have the appearance of having passed through a chopping mill. All the fruit crop is destroyed. The storm resembled a terrific battle; so fearful was the noise that no one could hear unless they screamed in each other's ears. We learn that the hailstorm extended from 5 to 25 miles in extent—destroying everything over a region 30 miles from north to south, and 10 to 20 miles from east to west.”
- June 23 *England.* In Surrey a most severe storm. The following are extracts from 3 accounts of 3 different local correspondents to the *Times*:
- “The hail increased in size to more than an inch in diameter, and fell more than one hour and a half, doing an incredible amount of damage. At the time I write—4:30—it still rains, but the hail lies on the garden paths like shingle on the sea-shore. Chickens and birds were killed, fruit and vegetables of all kinds utterly destroyed. The glass in all the houses is much damaged; our nearest neighbour has only three panes left. The villagers, I am told, were crying and afraid to stay in their houses, which were rapidly becoming flooded.”
- “The hailstones that fell here on Sunday last were of such unusual size that I was tempted to examine a few in detail. Their form was, as a rule, oblate spheroidal, only 1 out of about 16 collected being nearly spherical. Those picked up near the beginning of the storm displayed a distinct concentric structure, the ‘snowy’ parts being confined to the central nucleus. Later hailstones combined the radiated and concentric structures, the shells in most cases being alternately ‘snowy’ and transparent. The opaque parts seemed, on magnifying, to owe their appearance to a number of small globules, of air as it were, inclosed within the mass. The smallest hailstone examined measured 2½ in. in circumference; measurements of the diameters of others gave 1½ in. and 1 in., 1½ in. and ¾ in., and 1 in. and ¾ in. respectively. A fragment picked up from a finely radiated stone showed one diameter to have been at least 2 in.; another fragment indicated a radius of ¾ in. In several the globules appeared arranged in close radiating lines in the snowy nucleus.”
- “The thunderstorm was remarkable for its severity, long-continued nearness, heavy rainfall, and a short shower of large hailstones. From 1:34 P.M., when the storm began, till 2:15 P.M., and again between 3:35 and 3:50 P.M., the time interval between the lightning and thunder varied from half a second to three seconds, the flashes of lightning being repeated on an average every eight seconds. A few drops of rain fell at 1 o'clock. It was then fine till 1:36 P.M., when the storm began in earnest, and rain continued to fall with but slight periods of intermission until 4:55 P.M. At times the falls were exceptionally heavy. The total amount measured 1'412 inches. Some rather large hailstones fell for a short time with the rain at 2:36 P.M., but at 3:10 there was quite a heavy shower, lasting 4 minutes, of large hail. These latter hailstones were irregularly spherical in shape, and 6 of the larger ones weighed just a quarter of an ounce. Quite a light air prevailed throughout the storm. At 1:40 the wind veered from south to north-north-west, where it continued until 3:40, when it backed to south, and an hour

- 1878 afterwards to south-east. The sun shone out for a time at 5 o'clock. During the late evening hours a dead calm prevailed, the lower atmosphere was saturated with moisture, and the leaves of all plants were completely covered with a thick bloom of condensed moisture."
- June 27 *Scotland.* Severe storm in Edinburgh.
- „ 29 *England.* Severe storm in Berkshire and Oxfordshire. At Abingdon the stones were of the size of walnuts. In the neighbourhood of Bicester, the hail which accompanied the storm was almost blinding, and the people were unable to discern anything at a greater distance than 30 yards. Two sheep were killed by the electric fluid at Fewcott, another place in the same district. The storm lasted nearly half an hour.
- Aug. 25 *Italy.* Great damage to crops.
- 1878 *France.* The losses this year were very light.
- 1879 *India.* A hailstorm of extraordinary severity passed over the Tipperah district in Eastern Bengal. The magistrate's official report says: "Some hailstones fell as large as cricket-balls. The storm lasted only about 15 minutes, and its track was apparently not more than 300 yards wide. Large trees were uprooted; bamboo clumps swept down like grass, and houses levelled with the ground. Twenty-nine persons were killed and 114 wounded, mostly by the falling trees and houses. A considerable number of cattle were killed, and among the victims was a tiger."
- March 13 1879 *England.* May 16 to Aug. 3. A series of destructive storms, especially that of the date last named, extending over a great part of the Eastern Counties, and lasting for some hours.
- Aug. 3 (2 A.M.) Kew and Richmond (Middlesex and Surrey). The Royal Gardens at Kew were devastated by a hailstorm of about 10 minutes' duration, which drove over them from the N.E., and expended its greatest fury in the neighbourhood of Richmond. There was violent thunder and lightning. About 16,000 squares of glass were broken—many of the squares having clean "bullet" holes through them. The stones averaged about 1½ inches in diameter [one as large as 3½ inches was reported from an adjoining locality], and came down with sufficient force to become embedded in the loose soil and even in the lawns. The stones also went clean through the leaves of many of the plants. Damage at the gardens £2000.
- 1880 *India.* The Dhárwar correspondent of the *Bombay Gazette* gives an account of a storm which was ushered in by the fall of some very heavy hail—several of the largest stones, which were spherical in shape, measuring no less than 9 or 10 inches in circumference. The correspondent admits that he did not see the larger stones, but he vouches the accuracy of the statement. One piece of ice picked up was about 5 inches long, and pointed at one end. There were lightning and thunder on a grand scale. —*Nature*, 29 April.
- March 24 May 25 *India.* At Mussooree. In the afternoon a storm remarkable for its fury, extensive area, and size and structure of its stones, enveloped that station and Deyrab and Rajpore at the foot of the hill. A discharge of stones as large as pigeons' eggs (writes Dr. R. F. Hutchinson) opened the attack, and this was followed by a continuous downpour of stones, oblate spheres as large as small marbles. The whole station was penetrated by these, and it presented the appearance of being strewn broadcast with acidulated drops. These stones were of pure clear ice, and, barring their shape, quite amorphous. Not so the large stones, whose structure and mode of formation were very puzzling. First an opaque nucleolus surrounded by a concentric nucleus of clear ice, and this by a radiating periphery. The nucleus being opaque was rapidly frozen; it must then have moved through alternate layers of hot and cold air to have received the concentric accretions of pure ice. The radiating periphery (which was translucent, but not transparent) quite puzzles our correspondent. —*Nature*, 8 July.
- June 18 *Switzerland.* "During the last few days various parts of Switzerland have been visited with severe thunder and hail storms. The crops in the district of Porrentruy are completely ruined, many of the hailstones which fell there weighing upwards of 15 grammes."—*Times*.
- „ 20 *Roumania.* "Heavy hailstorms caused grave damage to the crops in the district of Bralia."—*Times*.
- July 13 *England.* "Very large stones in the neighbourhood of Liverpool."
- „ 24 *Ireland.* At Moylough, Co. Galway, a very severe storm lasted half an hour.
- Aug. 20 *France.* At Riom (a fertile plain near the Ambone) a terrific storm lasting for 20 minutes: stones as large as fowls' eggs, and some as large as men's fists; branches of trees were cut off, and birds were killed.
- Germany.* The losses sustained by the *Magdeburg* Co. have been very heavy during this season. [STORMS.]

HAIR (HUMAN), THE.—Hitherto the consideration of the hair has not entered largely, if at all, into the medical estimate of the value of human life. Dr. Adams Allen, indeed, in his *Medical Examinations for Life Ins.* [5th ed. 1869], under title “Colour of the Hair and Eyes,” says :

This point also refers particularly to the temperament ; but attention is called here to changes in the colour of the hair from advancing or premature age ; to its nutrition, whether dry or husky or soft and silken in texture—whether it remains firmly rooted or has fallen. These observations may give a clue to the diathesis or cachexia present.

This appears to us to fall short of what might fairly be said upon the question. Speaking from our own observation, we may say that we never observed a bald head on a person of consumptive tendency ; but the converse is usually the case—a great abundance of hair, to an extent in some cases indicative of possible exhaustion of the system.

Further, the study of the hair seems not unlikely to be destined to throw light upon problems in medical jurisprudence. Thus in 1879 we are told : Recent investigations by M. Jeannot have enabled him to demonstrate for medico-legal purposes the difference which exists between hair in a healthy or diseased state of the body and on a corpse ; also, as to its varieties, its place of growth, and the age and sex of the individual. He also claims to be able to prove by specimens submitted whether hair has been pulled out by violence, cut off, or whether it had fallen out. There is also a theory, which yet remains to be proved, that the presence of arsenic in the body may be detected by the hair. In many murder cases, where hair has been found on deadly instruments, these investigations may be used to advantage in the courts in fixing crimes on the perpetrators.

Ins. managers will, therefore, be interested in noting later developments in this direction—calculated as they are to aid in the elucidation of Ins. frauds.

HALE, SIR MATTHEW (Lord Chief Justice).—Published in 1677 his famous work : *Primitive Origination of Mankind*. See **BILLS OF MORT** ; **POP.**

HALE, WM., M.P., etc.—This gentleman assisted Henry Spelman in the conduct of the bus. of the *Friendly Ins. So. for Insuring Houses from Fire*, founded 1683. See hist. of this Assn. ; see also Cussans's *Hist. of Hertfordshire* (Parish of King's Walden) for memoranda relating to the family of Hale.

HALES, STEPHEN, D.D.—A natural philosopher of great distinction in the last century. He pub. various works, none of which especially bear on our subject ; but after his death, in 1761, at age 84, a paper of his appeared in the *Gents. Mag. : An Account of some Obs. on the Parish Registry of Faringdon near Alton, Hampshire*. [**MORT. OBS.**]

HALF-BLOOD.—One not born of the same father and mother ; but who can inherit by virtue of 3 & 4 Wm. IV. c. 106.

HALF-CREDIT PLAN.—The practice of allowing one-half of the prem. under whole-life ins. pol. to remain at credit for a certain limited number of years may be said to possess certain advantages to pol.-holders in some cases—as in Partnership Ins., and other applications of the principle to bus. purposes ; but when brought into practice indiscriminately, it becomes productive of much disappointment to the insured.

Viewing the practice historically, we believe it was introduced in 1834 by the *United Kingdom Life*, for 5 years ; followed in 1837 by the *Britannia Life*, making it a very special feature explained in special prosp. ; in 1848 by the *Engineers and Masonic*, whose prosp. said, “Credit for half the prem. for the whole of life.” And prob. at or before this last date adopted by Life Offices generally, without however proclaiming it as a special feature ; and by all prudently managed offices for a limited period only.

The first writer who reviewed the practice was Mr. Peter Watt, in *Science of Life Ins.* pub. 1837, who said (p. 65) :

One existing London Life Inst. proposes to allow *one-half* of the prem. exigible for the first 5 years to remain over unpaid ; and, should it be the intention of the insured at the expiry of the said period of 5 years to forfeit the pol., no claim is to remain with the Co. to exact the sum so left with the assured. By referring to the diagram of the voyage of life, and laying off the *ann. risk*, which, by the experience of the *Equitable*, a life office sustains during the first 5 years of any pol., and comparing this amount with the sum exacted by the life office, it will be found in all cases the office is quite safe in entrusting the assured with half the prem. *computed as for the whole voyage of life* . . .

Most subsequent writers have expressed themselves upon this practice, with varying views, from Mr. W. T. Thomson, who (*Proof-Sheets*, 1856, p. 126) says, “The system, within limits, is quite sound,” to M. E. Brabrook, who declares (*Assu. Mag.* vol. x. p. 351), “Any debt whatever upon a pol. is unsound and subversive of the principle of assu.”

In practice the office has to see that under no circumstances shall the half prem. be less in amount than the lowest term prem. for the same age. It has also to be remembered that the credit half of the prem. is more likely to be paid *if the life falls into bad health*, than if it continues sound—hence an important selection against the office. Further, in the periodical valuations the credit prem. and interest thereon, may form an apparent asset, not likely of realization except under the adverse circumstances already referred to.

Regarding the selection against the office, we may quote the following impressive passage from Messrs. Bailey and Day's paper, *On the Rate of Mort. amongst the Families of the Peerage*, 1861 [*Assu. Mag.* vol. ix. p. 317] :

The exceptional mort. also of the period of early manhood, confirmed as it is by the experience both of the Gov. Annuity and of the So. of Friends, indicates that those assu. are not the most desirable that are effected under the age of 30 for terms of years, on an increasing scale of prem.,

or on that most inconsistent and odious method called the "half-credit system." The same circumstance will perhaps explain why, in the *Economic Office*, it has been found that the highest rate of mort. has been experienced on term ins.

We think on the whole it is preferable that either "term" or "increasing prem." pol. should be taken wherever the present cost is an element of consideration; and certainly where a pol. is designed as a family provision, it is inconsistent to burthen that provision with an accumulating debt which may in process of time steal away the entire benefit of the contract. If such pol. be issued, the incidents of their liabilities should be made especially clear at starting. [INCREASING PREMS.] [TERM POL.]

A later improvement has been introduced, whereby the arrears of the credit-period are merged into the equal prems. payable for the remainder of life. This removes some of the objections we have noted. The surrender values of such pol. are of course affected.

HALF-ENDEAL.—A moiety or half of a thing.

HALF-PREMIUM PLAN.—See **HALF-CREDIT PLAN**.

HALF A YEAR.—At Law, consists of 182 days, and not 6 lunar months.—*Cro. Jac.* 166.

HALF-YEARLY INCREASE OF LIFE PREMS.—In most cases Life prems. are, as a matter of convenience, calculated to advance by yearly stages. In some few offices the advance has been made half-yearly. One of the earliest British offices adopting this system was the *English and Irish Church* in 1853.

In *France* it is the practice of Life Offices to advance the prems. at the half-yearly, and in some cases with the quarterly ages. Where this is done, the "office age" is always more nearly approximating the actual age—a point to be kept in view in the valuations.

HALF-YEARLY PREMS.—When the practice of receiving half-yearly prems. under Life pol. was first introduced has never yet been made clear. It was prob. early in the present century. [LIFE INS. PRACTICE.]

HALIFAX (YORKS).—A thriving manufacturing town in the West Riding of Yorkshire, which had in 1871 a pop. of 152,666, and which is prob. now (1880) approximating to 200,000. It has been the seat of several more or less flourishing Ins. Asso., which will be noticed in their alphabetical places.

The most interesting circumstance affecting this town—apart from its extended and flourishing Provident Inst.—is associated with its V. S. Notwithstanding the beautiful situation of the town—perhaps indeed too much sheltered by the surrounding hills—its death-rate was very high. From 1868 especially it had begun to rise; by 1870 it was 29 p. 1000; in 1871 it had reached 31.5. Attention was directed to the cesspits or "middens" and water-closets as a possible cause. The Goux dry-earth system of sewage disposal was introduced generally in 1872 (it had been in part tried in the preceding year), and the death-rate began simultaneously to decrease. During 1873-5 the death-rate was reduced to 24.1; while the fever-rate, which had been 1.0 in 1870-2, was reduced to .7 in 1873-5. *Vide* Mr. Alfred Haviland's Rep. under date 3rd April, 1876.

HALIFAX AND BRADFORD FIRE AND LIFE INS. CO.—This was one of several titles under which the Co. next to be spoken of was prov. regis. in 1845.

HALIFAX, BRADFORD, AND KEIGHLEY FIRE AND LIFE INS. CO.—Founded at Halifax in 1846, with an authorized cap. of £600,000, fully subs. in 30,000 shares of £20. The bus. of the Co. was carried on with a good deal of energy, but with very poor success; and finally (in 1853) it was trans. to the *Unities*—the Fire branch to the *Unity Fire* and the Life branch to the *Unity General*—on terms of considerable advantage to the proprietors. Mr. T. C. Spencer was the Sec. The Co. pushed its bus. amongst the woollen mill risks chiefly.

HALIFAX FIRE AND LIFE INS. CO.—This is another of the preliminary titles under which the last-named Co. was prov. regis. in 1845.

HALL, A. G.—Was Supt. of *Prudential* for Sheffield district for some years previous to 1875, when he was removed to the South of England, in consequence of failing health, to occupy a similar position. On leaving Sheffield he received a testimonial from the agents who had been working under him.

HALL, GEORGE.—Was Sec. of *Lond. Assu. Corp.* from 1771 down to 1777.

HALL, HENRY H.—Was for several years the Chairman of the Bureau of Statistics constituted by the National Board of Fire Underwriters, N.Y. The object of this bureau was to obtain authentic returns from all sources of the experience of Fire Ins. Cos. regarding particular classes of risks. These were tabulated under the immediate superintendence of Mr. Hall, and the results were communicated to the National Board. The preliminary rep. on "Woollen Mills" presented in March, 1874, gave an outline of the nature of the work undertaken. The later reports extended to many other risks, with results of an equally instructive character. It is to be deplored, in the interest of fire underwriting generally, that these efforts are for the moment suspended.

HALL, JOHN E.—For some time Ed. of *American Law Journ.*, pub. in Baltimore, 1811: *An Essay on Maritime Loans, from the French of Mons. B. M. Emerigon, with Notes: to which is added an Appendix, containing the Titles "De Exercitoria Actione," "De Lege Rhodia de Factu," and "De Nautico Fœnore," translated from the Digests and Code of Justinian. And the Title "Des Contrats à la Grosse Aventure ou a retour de Voyage," from the Marine Ordin. of Louis XIV.* A very useful publication.

HALL, JOHN WILLIAM.—Wharfinger and Merchant, London. Was examined before the Select Parl. Committee on Fires in the Metropolis in 1862; and as he appears to have represented the grievances of his class on that occasion, we give a brief abstract of his evidence :

3159 . . . I have invariably insured my property until this year, when I have declined to do so, because the Ins. Cos. have raised their rates in such an indirect way, that now people will not, and cannot in fact, afford to pay such ruinous rates as the Cos. ask for their premiums. . . .

3160. That is upon warehouses?—Upon warehouses principally.

3161. But the question of Ins. is one entirely between the person making the ins. and the Ins. Office, is it not?—Not exactly, because the Ins. Cos. have laid down a rule by which, if one office will not take the risk, the other refuses. With your permission I will place two documents before the Committee which will probably illustrate that more fully. They are under the head of “London Mercantile Tariff,” and they are of two dates.

3162. Will you be kind enough to state the nature of those papers to which you allude?—These papers emanate from the united Ins. Cos. The number of them I do not know, but I have been given to understand that there are about 35 to 40 of the Ins. Cos.

3163. In and around London?—Not only in London. It is a common thing for the Lancashire and Yorkshire, and Liverpool Ins. Cos., to take considerable risks of property in London.

3164. Have they signed these papers?—No.

3165. You do not know exactly which of the offices are comprised?—I only know that the bulk of them are united in this matter; because if I, for example, wanted to insure my property at one of these offices, they say you must pay 15s., while a new Co. does it at 7s.; but then the new Co. will only take a moderate sum, and the consequence is that you cannot effect your fire ins. as far as you would wish. The rates now charged by the old Cos. are singularly high. [He then explained that one office with which he had formerly insured had increased the rate to 15s.]

3166. How much did you pay before?—I had been paying 3s. or 4s.

We have already explained alike the causes and the consequences of this movement under FIRE INS. PREMS., 1862.

HALL, PROF.—Was Act. of the *Argus* for many years down to 1856.

HALL, W. H.—Man. of Edinburgh branch of *Gl. Britain Fire* and *Gl. Britain Life Offices* since 1876.

HALLAGE.—Tolls paid for goods or merchandize vended in a hall.—*Wharton*.

HALLAM, HENRY, F.R.S.—Contributed to the *Statist. Soc.* in 1844, a letter: *Observations on certain Passages in the Rep. of the Irish Census Commissioners* [Jour. of Soc. vol. vii. p. 178]. [MARRIAGE.]

HALLETT'S INS. SCHEME.—In 1719 a project was set on foot by Sir James Hallett (through the agency of a well-known projector, Mr. Thomas Burgess) to raise a fund of £1,200,000 for the purpose of granting Annuities, securing fortunes to Widows, Orphans, and others; settling jointures on Marriages, and Insuring Lives, etc. Sir James, and 113 merchants and others who were subscribers to the fund named, petitioned Parl. for a Charter to enable them to carry out their objects.

The petition first spoke of the advantages of annuities; and then proceeded to point out the advantages of Life Ins. in a manner so intelligible and understandable that it would put to shame half the high-flown, but empty prosp. of the present day. It averred that it would be of great advantage to the subjects of these realms, “especially such of them as are in trade, to use in such their trade the greatest part of the fortunes they may receive with their wives; and which they might much the better do, could they, by laying out some part of the said fortunes, receive a sufficient competency for their wives to live and subsist upon, in case they should, by the chance and hazard of trade, either fail or die, without a capacity to make any other provision for them.” Further, “that it would also be very serviceable to his Majesty’s subjects could they safely and securely insure upon their lives; which would encourage merchants to be more bold in their undertakings, because in case of their death before their schemes in trade succeed, their widows and families might thereby receive a benefit in a great measure to recompense the failure of such their undertakings. That persons in good offices and employments for life may, for the same reason, be induced to make provision for their families, who during their lives have an opportunity of maintaining them in good credit, but at their death very often leave them in slender circumstances.”

These arguments might be multiplied, but they could not be much improved upon. The Attorney-General, however, in his wisdom, reported to the Gov., or the King, on this—Hallett’s Ins. Scheme—that in his opinion it was not advisable for H.M. to erect “any such corp. as is therein described,” and the matter, so far as the then promoters were concerned, fell to the ground.

Some details regarding this scheme have already been given under ANNU. ON LIVES; and further reference will be made under title LIFE INS., this date.

HALLEY, EDMUND, LL.D., F.R.S.—Generally known as Dr. Halley, but sometimes called “Halley the Astronomer.” He was a celebrated mathematician and astronomer, and is known to science as the discoverer, in 1680, of a comet, which he predicted would

return about 1835—and it did! He is known in the Ins. world as the compiler of the *BRESLAU T. OF MORT.*—the first systematic Table of Mort. deduced from modern scientific observation of recorded facts. This T. was brought to the notice of the Royal So. in a paper which Halley submitted to that So. in 1693: *An Estimate of the Degrees of the Mort. of Mankind, drawn from curious Tables of the Births and Funerals of the City of Breslau, with an Attempt to Ascertain the Price of Annuities upon Lives.* The paper was pub. in the *Phil. Trans.* of that year, No. 196. [Some authorities state that this paper was read in 1689.]

In the life of Halley in the *Biographia Britannica* it is stated that he pub. in 1692: *T. showing the Value of Annu. for Lives, calculated from the Bills of Mort. at Breslau in Silesia.* We have not seen this work. It prob. is but a mis-quotation of the title of the preceding paper.

In 1693 he submitted to the Royal So. a paper: *Some Further Considerations on the Breslau Bills of Mort. By the same Hand with the former.* [*Phil. Trans.* No. 198 for March, 1693.]

It was unquestionably by virtue of Halley's position as Assistant Sec. of the Royal So. that the Bills of Mort. of Breslau, sent over by Dr. Neumann of that city, fell into his hands; and hereon his biographer says:

They appeared to him on examination to be drawn up with all the impartiality and exactness that the purpose required: whereupon he applied himself to make proper use of them in adjusting thereby the valuation of Annu. upon Lives. He was industrious to calculate the value of annu. for every 5th year of age, to that of 70; "leaving it to the ordinary arithmetician (these are his words) to complete the calculation, whenever B. of Mort. should be given for a suitable large number of years." But experience and observation having shown these to be sufficient, the subject has been prosecuted by others and brought upon his grounds to a very useful degree of perfection.

In vol. xviii. of *Assu. Mag.* these papers of Halley have been reprinted, and they are very valuable for reference.

In 1708 there was pub.: *Miscellanea Curiosa*, in 3 vols., wherein is contained *A Treatise on Mort. and Life Annu.* We have seen this also attributed to 1693, but we assume this to be an error. Dr. Halley's writings were so numerous and varied that there is great difficulty in tracing them with accuracy. Again the title given may be but a mis-quotation.

In 1716 Halley constructed a Diving Bell.

In 1736, Mr. Weyman Lee pub.: *An Essay to ascertain the Value of Leases and Annu. for Years and Lives*, and therein he attacked Halley's method (p. 135).

This led to the publication in 1739 of: *Observations on an Essay, etc., Wherein Dr. Halley's Method is particularly considered, and Rules laid down for Estimating the Chances of the Duration of Lives, and the Value of Annu. for Years and Lives, in a Letter to a Friend.* By H. B. J. T. S., 1738, 8vo.

Halley was born at Haggerston, near London, in 1656, and died at Greenwich 14 January, 1742.

In 1775, Mr. Israel Lyons collected into one vol., under the sanction of the Royal So., the fugitive pieces of Dr. Halley; but his death occurring just on the completion of the work, we believe the vol. was never pub.; it is still much needed.

A claim having been set up that De Witt is entitled to some of the merit which in this country we claim for Halley, we propose to pass in review a few of the authorities upon the point.

Mr. Farren speaks of Dr. Halley's T. as constituting the first real step in the *art of Life Measurement*.—*Essay on Life Contingencies.*

Mr. Samuel Brown speaks of Halley's labours as resulting in the *first Life T.*, in the form which has ever since been followed, to show the annual movement of a pop., the prob. of survivorship, the average duration of one or more lives, and the money values depending thereon.—*Assu. Mag.* vol. vi. p. 138.

Mr. W. T. Thomson says: Dr. Halley may be designed, then, the discoverer and scientific arranger of what are called Life T.; but there is no doubt that De Witt preceded him by some years in the elimination of a method by which the true value of a life annu. could be obtained. Halley was more scientific than De Witt, but there is no occasion to place the one above the other: they both made important discoveries and valuable additions to our knowledge.—*Ency. Brit. and Proof-Sheets* (1856, p. 32).

Mr. Hendriks, who has done more to elucidate the labours of De Witt than any man living, says: No one, with a candid and unbiassed opinion, would in the present day attempt to deny that Dr. Halley was the discoverer and scientific arranger of what are termed Life T., in the full and highly important modern acceptation of the term, and that in his paper (*An Estimate*, etc.) he taught the world the best initiatory, and theoretical form for the computation of life annuities, and of survivorships from and to given ages.—*Assu. Mag.* vol. ii. pp. 255-6.

Dr. Gouraud, in his recent work on Probabilities, attributes to De Witt the formation of a table of annuity values at *each age*. This is erroneous. The credit of the formation of such a table belongs of right to Halley.

Mr. Hendriks thus sums up the controversy [*Assu. Mag.* vol. ii. p. 256]:

The reader being now enabled to form an idea of what De Witt's Treatise really is, it will be equally incumbent upon him to admit that the Dutch Statesman, 28 years before our countryman the Astronomer Royal Halley, presented to notice at least a method by which the value of life annuities

could be accurately calculated, different from and inferior in convenience to the perfectly independent solution of the latter, but in no wise less applicable as a method of operation in such valuations, and if needed, a basis for insurance estimates; though unlike Halley's it was not available for the different other forms of life contingencies, or for the purposes of the statistician and political economist, to which that can always be applied, and which would have been sufficient to establish Dr. Halley's fame, had it not been already gained by his brilliant discoveries in the spangled vault of heaven. Neither does the renown of De Witt stand in need of adornment, but historic justice should not be neglected even in the smallest particular.

Again, and in a national spirit :

It is pleasant to observe that notwithstanding a few captious remarks "on Halley's method existing in the nature of things," the continental public has been ready to accord the meed of praise to which his useful labours entitle him. Let us do the same with regard to De Witt ! The two treatises have in different fashions had the greatest influence upon the subjects whereon they treat. Let each retain its proper place, which does not interfere with the relative degree of credit due to both.

[INTEREST, COMPOUND.] [LIFE CONTINGENCIES.] [LOGARITHMS.]

HALLEY'S TABLE OF MORTALITY.—See **BRESLAU T. OF MORT.**

HALLOWS, FREDERICK J.—Late Gen. Man. of *S. Commercial*, of which office he was the founder, and remained chief officer down to its amalg. with the *Lancashire* in 1880. He is now the representative of the last-named Co. in Edinburgh. Mr. Hallows was trained to the bus. of Fire underwriting in the *Liverpool and London*, under that great master, the late Swinton Boulton. From 1861 to 1865 he was Sec. of the *Caledonian Ins. Co.* Mr. Hallows was also one of the founders of the *Scottish Accident*.

HALOXYLIN.—A modern species of blasting powder, made of saw-dust, charcoal, and nitre ; and sometimes ferro-cyanide of potassium.

HAMBURG.—A Free City, founded in 809 by Charlemagne ; became of great mercantile importance in connexion with the Hanseatic League in the 13th century ; and is now the greatest commercial port on the Continent of Europe. It is situated on the Elbe, about 80 miles from the mouth, at the confluence of the Bille and Alster. It was until comparatively recent times a fortified city. Since its walls have been levelled, it and the neighbouring (and until recently Danish) city of Altona appear from the river as one. In 1850 the pop. of Hamburg was 112,866 ; in 1860 it was 229,941 ; in 1871, 338,974 ; in 1876, 388,618. This rapidity of growth is very striking. The shipping belonging to this Port consisted on 1st June, 1878, of 102 steamers, with a tonnage of 84,135 tons, and of 366 sailing vessels with a tonnage of 139,775 tons—total 468 vessels, with tonnage 223,910 ; while the vessels of all the trading nations of the world enter its port. In 1849 the total tonnage of vessels entered was 564,282 tons, value of imports £20,662,213 ; vessels cleared 556,344 tonnage, value of exports £18,742,653. In 1866 the State of Hamburg joined the North German Confederation ; and in 1872 the City joined the German Empire, its privileges as a free port being confirmed.

It is in the records of this City that we shall find the first traces of the practice of Fire Ins. in Europe ; and this is a matter of the highest historical interest in connexion with our present work—see sub-heading *Fire Ins.*

In 1842 (4 May) a fire broke out in this City, lasting 4 days, and destroyed 61 streets, with 1992 houses, and numerous churches and public buildings. This event gave rise to several new Fire Ins. Assos., which we shall notice in detail under the proper head.

In 1855 (Jan. 1) half the city was inundated from the overflowing of the Elbe.

Early Ins. Projects.—We have very direct evidence of the manner in which the influence of the South Sea Mania in England extended itself to some of the Continental Cities in what follows [see also **HOLLAND**] :

1720.—On the 16th July a Co. of Ins. [whether Marine or Fire not stated] was set up here, the cap. stock of which was to consist of 8 million of Lubish Marks Bank money. Each action (share) was to be of 4000 marks ; and the subscribers were to pay down at first 10 p.c. The capital was all subscribed the first day ; and the shares were within a day or two sold at 26 p.c. advance.

In the (London) *Post Boy*, under date, "Hamburg, 19 July," we have the following add. particulars :

The first Co. of Ins. erected here being over-full in less than a week, and several considerable merchants having no concern therein, who would not go to the high price these actions (shares) were sold at, they resolved (after having in vain solicited the first proprietor to take an add. stock of 3 or 4 millions) to form such another Co. of their own. Accordingly they met yesterday afternoon at Mercers' Hall, to the number of 25 persons ; and the occasion of their meeting being just recited, they immediately subs. to the amount of 5 millions Lubish Marks. Then the doors were thrown open, and persons without distinction permitted to subs., as they did to the value of above 12 millions ; but this being deemed too much, some were cross'd out, and others admitted to stand. Hence they adjourned to the Exchange, which is crowded from morning to night ; and these actions presently run up to 1000, and would have risen higher but that our Magistracy, taking into their consideration how prejudicial this unauthorized traffic would prove (for a 3rd Co. was already talk'd of), they caus'd an order to be this day affix'd in all the usual places of public resort, entirely suppressing the sale of actions given out by private persons, and declaring the offices of such brokers as should presume to deal in them, forfeited.

The conflict between the town and the authorities continued for some time, when the former threatened to found a new Co. in the free town of Altona, adjoining Hamburg, but then and until recently included in the Sovereignty of Denmark.

1731.—There existed in this city at this date [prob. founded much earlier] a Public Bank, in which money was deposited for the redemption of slaves—these slaves being,

not African negroes, but captains of merchant ships who had been taken into captivity by Turkish, Moorish, and Barbarian pirates. The risk of such capture constituted a special branch of Ins. bus., as we have already shown under CAPTIVITY INS.

1746.—We learn from Magens' *Essay on Insurances* [1753] that all contracts for Gambling or Wager pol. were at this date forbidden in this city.

We now proceed to arrange the history of Ins., etc., in this city under its appropriate sub-headings.

Annuity Sos.—The first Annu. So. of which we have any account as having been estab. in this city prob. took its rise in 1778. Dr. Price, in the 4th ed. of his *Reversionary Payments* (pub. 1783, p. 127), says: "At Hamburg an Annu. scheme has been lately estab. of a more comprehensive nature than any of the schemes which have hitherto been mentioned." He had been referring to those in England, and some other parts of Europe. And (p. 178) he reverts to it again as follows:

Having received through M. Oeder, at Oldenburg, an account of this Inst., and finding that the conductors of it wish to extend its advantages beyond the limits of Hamburg, I embrace with pleasure this opportunity of recommending it, and reciting the following particulars of its plan.

The details embrace the following: Persons of all ages who may desire to increase their incomes by purchasing annuities for their own single lives, or for the longest of any two lives, may in this Inst. purchase such annu. A person at 50 may receive during his life $7\frac{1}{2}$ p.c. for any sum; at 60, $10\frac{1}{10}$ p.c.; at 70, 15 p.c. Persons who depend for a subsistence on the permanency of their capacities for service or labour, may with their savings in the years of vigour, purchase for themselves a competence for old age. A person aged 40 might thus with £100 purchase £18 p.c. for life after reaching 55; or for a payment of 17s. 6d. every half-year till he reached 60, secure after that age an annu. of £6 12s. p.a. Other forms of annu. might be purchased, as a boy aged 10 might, on sinking £100, secure an annu. of £8 15s. until he reached 25, and could then provide for himself. In the case of widows an abatement was made in the case of annu. to continue only during widowhood.

The money received for the purchase of such annu. was to be lodged by the Asso. in the Chamber of the City, in view of making the security absolute.

A set of T. had been prepared (calculated at 3 p.c. int.), deduced from some of the best Registries of Mort., "and, as far as I have examined them, with skill and correctness." These were in fact deduced from the *Sussmilch's-Baumann* Mort. T. About the commencement of the present century, a new T. based upon the experience of the Asso. was adopted for some classes of the bus. [GERMANY, Mort. T.]

1835.—There was founded the *Pensions-Casse for Widows and Children of the Employes of the State of Hamburg*, of which Herr Wilhelm Lazarus, F.I.A., is the Actuary. See sub-heading *Widows Funds*.

Bills of Mort.—An exceedingly valuable B. of Mort. (called there a T. of Mort.) was pub. in this city early in the present century—perhaps earlier—under the superintendence of the Board of Health. It comprised 5 separate T. as follows:

1. The total number of interments and the daily average number; also the total number at the different burying-places during each month of the year separately, and during the whole year without distinction of age or sex.

2. The same for each month for abortive and still-born separately. Then the deaths properly so called, which take place amongst the living during each of the four quarters of the first year of age, in the second year; between the ages 2 and 5; and of 5 and 10 years; then in each decade of age to 100, and those above 100; with the total for each month, and for the whole year, of each sex separately, and for both sexes without distinction. There is also a column set apart for those whose ages are not known.

3. This T. consists of two parts, abstract of No. 2. The first showing for each month the number of the abortive and still-born, and also of the deaths under and above 10 years of age. The second, besides the number of abortive and still-born, shows the number of deaths in each of the above-mentioned intervals of age. The sexes are distinguished throughout.

4. Besides the abortive and still-born, shows the number of deaths of each sex, and of both without distinction, that took place within the year, both under and above 10 years of age, by about 80 different causes, besides those by suicide in various ways, and other violent deaths.

5. Shows the number of children born in each month of the year, and during the whole year, both alive and dead at birth, with distinction of the sexes of those born alive, but not of the others; that, however, is given for them both in the 2nd and 3rd Tables. The number of twin and triple births are also stated in separate columns.

Mr. Milne remarks hereon [*Ency. Brit.* 7th ed.]: "The only fault we see in this Bill of Mort., which in other respects may well serve as a pattern for others, is the most improper practice of including the abortive and still-born in the totals both of the births and the deaths. They should always be stated, but kept separate both from those born alive, and from the deaths that take place among the living."

In Dr. Casper's work, pub. at Berlin in 1835, is a Table showing the number of deaths in Hamburg during the 7 years 1819-25.

Cattle Ins.—There is a Cattle Ins. Co. in this city, concerning which we have been able to learn no details.

Census.—The Hamburg Statistical Office from time to time publishes facts of interest regarding the Pop. and Vital Statistics of the City.

Fidelity Ins.—There is a Co. for this branch of bus. in this city, but we have not been able to obtain any details.

Fire Ins.—As we have already intimated, we believe that it is in the records of this city that we must look for the earliest known instance of the existence of a Fire Ins. Asso. professedly so designated. We know indeed that towards the close of the Middle Ages there existed in certain parts of Germany fraternal institutions, resembling Frith-Gilds, but locally designated *Bruderliche*. We believe that these developed into *Brandgilden*, which were known to be existing in Schleswig-Holstein in considerable numbers in the earlier half of the 15th century. These were Fire Ins. Asso. of the local mutual type. In the same century there appear to be traces of their existence in this city; but their actual shape is not capable of being defined until a later date.

1591.—This year there was founded in the city an Institution under the designation of the *Feuer Contract* [Fire Contract]. It is the earliest known Fire Ins. Asso. in Europe. It is believed itself to have sprung from an earlier existing *Brandgilden*, introduced into the city in the form of a Gild (Frith-Gild) very much earlier. The shape it now took was determined by the proprietors of 100 brewhouses in the City. In the case of a total loss, 1000 reichsthalers (equal to £200) was paid by the members of the Gild.

1647.—On the 10th June, this year, the Institution last named took a fresh development, and became the *Hamburger Feuer-Casse*. Or was it not altogether a new organization? It seems that 100 proprietors of houses and farms in Hamburg and the surrounding districts united to form the Asso. In the event of a total loss, each of the proprietors was to pay 8 reichsthalers (about £1 10s.). In the case of loss of barn or haystack, 1 reichsthaler (about 4s.).

This Fire-Casse appears to have been reconstituted on a far more extended basis 30 years later.

1677.—Prior to this date there had been some 46 Fire Ins. Asso. of the *Brandgilden* class—local mut. or municipal inst. At this date (February 28) these were all incorp. into one central Asso. known as the *Fire Ins. Office* [*Feuer-Casse*] of the City of Hamburg. The bus. operations being restricted to buildings within the fortifications of the City. This was eleven years after the Great Fire of London, and when Fire Ins. projects were maturing in England. That the fire of London had an influence in causing this consolidation of the various local asso. into one municipal scheme may be taken as certain. The real lessons it should have taught lie in an entirely opposite direction. See 1817 and 1842.

At the same date it is recorded that other similar Asso. were founded in the North of Germany.

1731.—The Ins. Ordin. for this city at this date, given in the following art., provides for Ins. against "Risk of Fire"; and also further provides [Title III. sec. ii.]

But whenever an Assu. is to be made upon houses, warehouses and cellars, or any other thing that is deemed extraordinarily hazardous, the same is permitted to be done; but in those cases the common pol. shall not be made use of, but a particular agreement in writing shall be made between the parties, which shall be equally valid and binding as the pol., and shall be proceeded upon at law, in the same manner.

Hence no form of Fire Pol. was given in this Ordin.

1750.—The Fire bus. undertaken by the Fire and Marine Ins. Co., other than the *Fire-Casse*, of this date was almost entirely confined to the protection of merchandize brought as imports into, or intended for export from, this City and the neighbouring maritime towns. Regarding the rates of prem. charged and the general regulation of Fire Ins. here at this period, see FIRE INS., HIST. OF, date 1755.

1755.—Nicolas Magens, a London merchant, who pub. the first ed. of his famous *Essay on Insurances* in Hamburg this year, says:

Insurances from Fire are introduced into several countries, though not everywhere under that denomination. At Hamburg there is a *Fire Cassa*, of an old standing, wherein the principal houses are insured at the value of 15,000 marks (which is about £1000 sterling) to be paid in case of their being burnt; the insured paying yearly $\frac{1}{4}$ of a mark for every thousand marks for expenses. Every one concerned in this office, or *Fire Cassa*, contributes to a loss in proportion to what his own house stands insured for; but no house is valued at more than 15,000 marks, though it may have cost ten times that sum in building. We can account for this limitation no otherwise than by supposing the intention of the legislature to have been to curb by this valuation the pride of the citizens, and hinder them from being too magnificent in their buildings: a very wise maxim certainly in a trading city! It remains, however, as worthy of consideration whether the government of that city should not admit of Ins. to be made on a greater value than 15,000 marks, because the price of labour and materials is so much increased since that regulation. We must hint likewise, that it is not a little surprising that in so populous and fine a place as Hamburg is, an *Ins. on Merchandise* from fire has not been settled either by their *Fire Cassa*, or some other So., since the risk there cannot be judged so great as elsewhere, by reason of the vast plenty of water, and the dispositions they have made for extinguishing fires.

1779.—The first Proprietary or Stock Ins. Co. founded in Germany was estab. in Hamburg this year—the *Fünfte* (Fifth) *Assicuranz Compagnie*. It transacted a fair amount of bus., but was ruined by the great fire of 1842.

1786.—The *Phoenix* Fire (No. 2) of Lond. established an agency in this city this year, and transacted a very considerable bus., as it met the want expressed by Magens in 1755; although this want had been in part remedied by the formation of the proprietary Co. in 1779. This event is remarkable, as being the first instance of a Brit. Ins. Co. establishing an agency on the Continent of Europe.

1817.—The Fire Casse was reconstituted, although we find no record of the causes which gave rise to this step; it was prob. in view of fixing larger limits upon the buildings insured—the former restricted amount being in many if not in most cases too small.

1820.—There was founded the *Patriotic Ins. Co. (Patriotische Assecuranz Compagnie in Hamburg)*, with a cap. of 1,600,000 marcsbanc (£120,000), in 200 shares of 8000 m. b. each (£600). The Co. transacted a somewhat limited bus., which perhaps was the means of its being saved in 1842. In 1843 it insured property to the extent of £2,314,737, yielding in premis. £8796, while the losses were but £976. In 1853 the amount insured had decreased to £1,614,057, yielding a prem. of £4725, with losses of but £512. Thus, although its returns were small, the results were profitable, as is a marked feature of several of the Fire Offices of this city. [See Table at end of this section.]

1839.—The operations of the Fire Casse were extended to some of the immediate suburbs of the city; and again further extended in 1842. See 1867.

1842.—The great fire in this city occurred 4th May this year. It continued 4 days, and destroyed one-third of the city. We have already given a detailed account of the property destroyed [see FIRES, GREAT, this date]. The Municipal Fire Casse was exhausted, and the city had to negotiate a loan of a considerable amount to meet the losses—the aggregate amount of the destruction being estimated at £7,000,000; but this did not by any means fall entirely upon the Fire Casse. Several British Offices, besides the *Phoenix*, had now extended agencies here, viz. the *Sun*, *Royal Exchange*, and *Alliance*; and it was understood that the total losses upon these British offices were from £400,000 to £500,000, of which the *Phoenix* was the principal sufferer. Public contributions were raised in London, New York, and most of the cities of Europe, in aid of the City.

1843.—The great conflagration of last year gave rise to the formation of several local fire offices, viz.:

1. The *Hamburg Fire Ins. Co. (Feuer Assecuranz Compagnie von 1843)* was founded this year, with a cap. of 1,000,000 marcs banco (£75,000), in 2000 shares of £37 10s. wholly paid up—making £75,000. The bus. of the Co. was conducted on a limited scale, and with great prudence. Its prem. income in 1853 was £17,148, while its claims and expenses only reached £2552—hence it declared a div. of 50 p.c. Nor was this a very unusual result.

2. The *New Fifth Ins. Co. in Hamburg (Neue Fünfte Assecuranz Compagnie in Hamburg)*. This Co. [being a resuscitation of the Co. of 1779] has a cap. of 1,500,000 marcs banco (£112,500), in 500 shares of 3000 m. b. (£225); with a paid-up cap. of £22,500, and it insured in its first year £2,558,838, yielding in premis. £13,344, its losses being £4050; while in 1845 the prem. income was £9266, and the losses £6570. By 1853 the sum insured by the Co. had become reduced to £1,020,159, yielding in premis. £4854, the losses being £1008. The operations of the Co. were small, but profitable.

3. The *Marine and Fire Ins. Co. (See und Feuer Assecuranz Compagnie in Hamburg)*. This Co. has a cap. of 800,000 marcs banco (£60,000), in 200 shares of 4000 m. b. (£300), of which there was orig. paid up £12,000. The bus. was small in the early years, but has been successful.

1867.—The limits of the Fire Casse were now extended so as to embrace the entire territory of the State of Hamburg north of the Elbe (with some few trifling exceptions), and its name was changed to the *General Fire Casse*. See 1875.

A large amount of the Fire Ins. bus. transacted in this city is effected on the Exchange—long noted for the daily attendance of nearly all the bus. men of the City, as well as of multitudes of strangers. The amount of the Fire bus. so transacted in this and the two preceding years was returned as follows: 1867, thalers 359,000,000; in 1866, th. 337,000,000; 1865, th. 305,000,000.

Transatlantic Risks.—A large proportion of this bus. was upon Transatlantic risks, i.e. upon risks in cities of South America, where a large number of German merchants are located as traders, and who prefer to effect their Ins. at Hamburg: a special form of pol. applicable to such risks being in use here, of which we shall give a copy under sub-heading *Fire Ins. Contract*.

1875.—*General Fire Casse.*—The value of the buildings insured in the *General Fire Casse* at this date was M. 733,945,930—equal to about £36,697,296; the premium income was M. 547,637 (£27,400); the losses, M. 288,503 (£14,400); the reserve fund, M. 866,301 (£43,300).

The mode of working the Asso. is as follows: The ins. of every building in the city and suburbs is *obligatory*. Each building is valued by experts appointed by the office. If the insured is not satisfied, he is entitled to claim another valuation. The prem. is equivalent to 1s. p.c. and 9d. contribution towards the fire brigade expenses. Frame (wood) buildings pay 3d. extra; and buildings in which hazardous trades are carried on have to pay an extra prem., which is fixed by the board according to the circumstances of

the case. Warehouses pay 1s. extra. Timber buildings used in industrial operations, and also thatched buildings, pay from 1s. to 6s. extra; windmills, 6s. to 10s. extra.

When the reserved fund exceeds 1 p.c. of the amount insured, the ann. prem. can be reduced. If the losses exceed the ann. income, and the reserve fund is exhausted, the eventual deficiency must be made good by extra contributions up to $1\frac{1}{2}$ p.c. of the amount insured; but not more than $\frac{3}{4}$ p.c., or half of the total extra contribution for which the owners of buildings are liable, can be asked for in one instalment. If the losses shall exceed the extra $1\frac{1}{2}$ p.c. contribution, the city is bound to advance the difference: the repayment of which must be effected by the Feuer Casse according to special resolutions of the State Legislature in every case. No extra contribution can in fact be demanded without the assent of the Senate.

In the event of loss, the damage is ascertained by experts—a small loss by 2, a large one by 5. The amount paid for any loss must be applied to the rebuilding of the property burned, unless special permission is granted to the contrary.

The management is primarily under the control of the legislative authorities of the Free City, who appoint a special board (called Deputation) of control, consisting of 2 members of the Senate and 10 citizens (Feuercassenbürgers). Up to 1868 this board had the supervision of the Fire Brigade; but from that period a separate board has been appointed by the city authorities for this purpose. See sub-heading *Fire Protection*.

1876.—A new Fire Office called the *Fire Assu. Co.* of 1876, was estab., with a cap. of Rm. 1,000,000, of which Rm. 250,000 was paid up. The Co. proposed to cultivate Transatlantic bus. at reduced rates.

1877.—There were 67 Fire Ins. Offices transacting bus. in this City at this date. Of these 32 were *German*—7 only belonging to Hamburg; 2 *Swiss*; 4 *Austrian*; 2 *Dutch*; 2 *Swedish*; 1 *French*; 1 *American*; and 23 *British*, viz. Sun, Union, London Assurance, Royal Exchange, Phoenix, Norwich Union, London and Lancashire, London and South-west, North British and Mercantile, Guardian, Manchester, Alliance, Liverpool and London and Globe, Northern, Royal, Commercial Union, Scottish Commercial, Scottish Imperial, Britannia, Staffordshire, Consolidated and British Fire.

There were insured in the Municipal Fire Casse for the city and suburbs at the close of this year some 14,000 buildings, representing in value about 37 millions stg.

1880.—The following are the *Fire Ins. Cos. existing in Hamburg* at this date:

		Premium Income. 1878.	Losses. 1878.	Cap. and Accumulated Fund. 1878.
		£	£	£
1855	Hamburg Bremer	173,245	45,334	476,993
1868	Nord Deutsche	95,286	14,343	288,627
1869	Hamburg Bremer Reins. Co.	28,938	28,940	92,240
1872	Transatlantische	134,976	58,187	325,816
1874	Hanseatische	24,708	3,447	101,499
1876	Hamburg Magdeburg	104,895	47,339	162,755
1877	Feuer Assu. Cie. of 1877	6,073	396	52,538
"	Transatlantische Reins. Co.	44,147	19,105	80,183
1880	Nord Deutsche Mut. and Reins. ....	.....	.....	.....

It is seen that most of the earlier offices which we have noticed have passed out of existence.

Fire Ins. Contract.—The *Hamburg* form of Fire pol. has always been of special character. The form we propose to give here is used for "Ins. in Transatlantic places"—signifying mainly places on the South American Continent, between which and Hamburg, as we have already said, there is a large commerce:

POLICY.—Commencement of Ins. . . . expiration thereof . . . amount insured . . . prem. . . . The undersigned Ins. Compan- insure . . . under the within general, and the following special conditions, each in proportion and to the amount of the here following underwritten sum, against fire, for the term of . . . namely, from . . . 18—, 12 o'cl. noon, to the . . . 18—, 12 o'clock noon, the following: [Description of risk.]

Then follow, on the back of the pol., the—

Conditions of Ins.—1. The Ins. covers the damage which the insured property at the specified localities suffers from fire, as also from the extinguishing of the fire or the removing of the property when proved to be necessary, and which damage consists in the injury to, the destruction of, or the loss of, the insured property.

The damage which may happen by means of war or invasion by any military or usurped power, by means of civil commotion, riot, earthquake, or *entirely through the fault of the assured*, is excepted from this Ins. In case of an explosion, the pol. only covers the damage by fire which results therefrom, if it does not expressly state that the hazard of destruction from explosion is taken.

The obligations of the Co. toward the insured depend solely on the contents of the pol. and the respective renewals, and also on the accorded changes and supplements.

2. Documents and papers of value of all kinds, gold and silver bullion, coined money, jewels not set, genuine pearls, gunpowder, gun-cotton and the manufactories thereof, and tar-boiling establishments, are excluded from every insurance.

Gold, jewelry, watches, laces, cashmeres, sculpture, and other objects of art, as well as all objects which have a fancy value, are only insured when they are separately specified in the pol. and the value thereof stated.

If an article of property is exposed to the effects of fire or heat for any purpose of housekeeping or manufacture, and is thereby set on fire or injured, the damage which may happen to it will not be made good, but only the damage which may happen thereby to the other insured property.

The ins. of a building comprises all parts thereof which are not specifically excepted.

3. The ins. shall only be considered valid after the prem. has actually been paid.

By the acceptance of the pol., the assent with the contents thereof on the part of the assured for the whole term of the ins. is established.

4. Only the party who has actually concluded the ins., be it in his own name or on account, or by order of the owner, or of those otherwise interested (the ins.-taker), is regarded as the contracting party by the Co., and authorized to collect the claims arising from the pol. He is responsible not only for his own but for all the actions and omissions of the other persons concerned in the ins. as far as they relate to the fulfilment of the duties which the assured has according to the contents of the pol. It is especially his duty to advise his correspondents so that they may enable him fully, and in time, to furnish all such communications and notices, which in accordance with the conditions of the pol. have to be furnished to the insuring party, be it at the time of the application for the ins., or during the term thereof, or after a damage by fire has taken place.

5. *Duties of the Assured on the Application.*—The contracting of the ins., the property to be insured, and the place where it is situated, is to be exactly described, and all circumstances which may have an influence in estimating the hazard, and also the existence of other ins. elsewhere stated.

If the person on whose account the ins. is taken is not the owner of the property to be insured, the fact has to be stated.

6. *During the Term of Ins.*—When during the term of the ins. the hazard increases, or if the ownership of the property changes, except in cases of inheritance, when the insured property is transferred to other premises, when it is elsewhere insured, in such cases the insurer is entitled to discontinue the ins. for the unexpired term thereof by returning the prem. The occurrence of such new circumstances has therefore to be given notice of by the first mail, which leaves the respective place for Hamburg, and to be communicated to the insurer on the next week day after its arrival.

When a fire takes place on the insured premises or store, even when no claim for damages is made, or no damage is done to the insured property, notice thereof has to be given by next mail to Hamburg, and the same in writing to be communicated to the insurer as speedily as possible.

7. Only such goods may be stored in the insured premises or rooms, which the police laws of the respective place permit. Gunpowder in larger quantities than is necessary for domestic purposes is not allowed.

8. *Damage by Fire.*—The ins. shall not be a source of profit; its only object is to make good the damage according to Sec. 1, which is to be ascertained by estimating the true and common value of the insured property at the time of the fire, without adding profits which might have been made.

In estimating the damage, the decrease in value of the insured property is to be considered, which may have been caused by age, use, fashion, change of system, discontinuance of work, or other causes. If the value is lower than the one insured for, no matter if the latter is a taxed one or not, the damage will be made good only in proportion to that lower value.

If the insured property, in part or in whole, is elsewhere insured, or if the value of the property on hand at the time of the fire exceeds the amount of the ins., or if a self-ins. condition on the part of the insured is expressly specified, then the damage will be made good *pro rata*.

If the property insured belongs to other parties, the int. of the assured in the ins. has to be shown.

9. a. In case of a fire, the insured property must be saved as much as possible, and during the act of saving and afterwards, pains have to be taken to secure and preserve it.

b. Notice of the damage sustained by the fire has to be sent to Hamburg by the next mail which leaves the place of the fire, and there it is to be communicated in writing to the insurer on the next week day after its arrival.

10. *The ins. in itself is neither proof nor presumption of the existence of the value of the insured property.* To ascertain the damage, the insurer has to be furnished with exact and credible proof:

- 1st. Of the correctness of the situation and build of the premises or store insured, as described in the pol.
- 2nd. Of the origin of the fire as far as it can be ascertained.
- 3rd. Of the quantity and value of the insured property which was there immediately before the fire took place, of what was destroyed or lost thereof, and also of the damaged and undamaged property which was saved.

As far as the party who took the ins. is unable to furnish these proofs himself, for instance, by his own books, invoices, etc., they have to be shown by certificates of the proper public authorities, and by written affidavits of the party for whose benefit or on whose order the ins. was effected, or of their respective correspondents or agents, and of two blameless witnesses, and, as far as it is possible, by extracts from mercantile books authenticated in the same way.

The valuation of the saved, damaged, and destroyed articles is, according to section 8, to be made by two disinterested persons, who, in case they differ in opinion, have to elect a third one as umpire, and that, if necessary, by lot.

The nomination of both appraisers is to be made either by the Hamburg representative, Bremen or Prussian Consul, or if there are no such officers, then by any disinterested official person.

All other papers which the insured party has to furnish have also to be certified to by the Consulate or other official person, who is to elect the appraisers.

These papers are to be executed as soon as feasible, then to be sent to Hamburg by next mail, after they are executed and certified to, and then the originals are speedily to be handed over to the insurer. Besides, if the request is made, a translation thereof into the German language is to be furnished.

11. The insurer is at liberty to have the damage ascertained by his attorney, at the place itself, without prejudice to the contents of sec. 10.

12. *Adjudicated Cases.*—If the duties incumbent on the assured and the ins. taker have not been discharged or been violated, particularly if the proofs or other authentications have not been furnished in time, if the insurer has been deceived by untruth, misrepresentation or concealment, or if the value of the lost or damaged article has been put extravagantly high, or if it is in any other way attempted to over-reach the insurer, or if a precautionary condition which the pol. may contain is violated, then every claim for damages is forfeited, even as regards the ins. which is concerned in the same fire, and which is effected by the same insurer elsewhere for the same interested parties.

13. *Disputes.*—All the disputes between the contracting parties will go before the competent Court at Hamburg.

14. *Payment.*—After the whole amount of the indemnity and the obligation of the insurer to pay the same is fixed, by acknowledgment of both parties, by agreement, or by legal judgment, the payment will be made within four weeks to the ins. taker in Hamburg.

The insurer is under no obligation to acknowledge the assignment of a claim before it is adjusted as aforesaid, and to enter into discussion or law-suits with other persons than the insured.

Every claim which is not settled by consent of both parties, or sued within one year from the occasion of the damage, becomes void.

15. *Continuation of the Ins. after the Fire.*—After the fire, the amount of ins. decreases as much as the indemnity amounts to. If that is more than one-half, then the ins. becomes void.

After every fire on the insured premises or store, and after any damage, claim for damages or indemnity, both the assured and the insurer are at liberty to revoke every ins. effected between themselves by means of a simple notice in writing, which, on the part of the insurer, may be made by his agent or by his attorney. This option ceases if no use is made of it at the latest at the payment of the indemnity or if no indemnity follows the fire, within one month after the interested parties have cognizance thereof. If the cancellation is made on the part of the insurer, then the prem. for the part of the ins. which remains after the indemnity is given, and for the term of the ins. which remains after its cancellation, will be refunded, deducting the possible year of indemnity and discount.

16. *Recourse.*—All rights and claims made by those interested on third parties, for indemnity for the insured property, will, up to the amount of the paid indemnity, go to the insurer.

There is very frequently attached to this pol. a clause to the following effect :

That in case of loss by fire happening in the premises occupied by, or within the control of the assured, this Co. will only be liable and bound to pay *three-fourths* of the amount of loss so ascertained and proved; and in case of other ins., only the proportion that this pol. bears to the whole amount insured thereon.

This is known as the "three-fourths" plan, and falls within what is known as "Self Ins." in the U.S. We have seen it referred to as the "Hamburg plan" of ins.; but its use is exclusively confined to the Transatlantic pol.

Fire Protection.—Down to 1868 the Deputation appointed by the City Legislative body for the direction of the Fire Casse had control of the arrangements of the Fire Brigade; but since that period a separate board has been appointed by the Senate and Bürgerschaft for this purpose.

In practice the extinguishing arrangements are under the control of an officer, who is Supt. of Police, and Inspector of Fire Ins. The brigade is regarded as strong and efficient.

The appliances in case of fire in the new part of the city are very complete. Mains from 6 to 20 inches diameter are constantly charged at high pressure, being supplied from the one extremity by two steam engines, and at the other level from a high summit reservoir kept constantly filled. Throughout the whole length of the pipeage are placed, at intervals of 40 yards, fire-plugs, of 3 inches diameter in the clear. In two minutes, a power equal to eight ordinary manual engines can be anywhere applied and introduced inside the house where the fire is. There have been repeated fires in the houses in this part of the city, but they have always been put out in their early stages.

The effect of all this has been to bring to light many attempts at incendiarism. The fire has begun, and been speedily extinguished, and then have been found the preparations which had been made to aid its progress. But the water supply is too efficient for the successful perpetration of such frauds.

Inquiry is made by the police into the cause of every fire in this city, even the smallest. The police take possession of the premises, arrest the suspected person, and prosecute. The settlement of claims is deferred until these proceedings have terminated; but in case of neighbours sustaining loss, if free from suspicion, claim is settled at once.

Glass Ins.—In 1876 there was founded the *Hammonia Spiegel Vers.* for insuring Glass in Hamburg and Altona. The cap. of the Co. is £3750 in 250 shares of £15. In 1878 its income was £1256; its claims £533; its accumulated fund £2199. The Co. has now (1880) obtained permission to extend its bus. into Prussia.

Ins. Literature.—In addition to the *Ins. Literature* enumerated under GERMANY, has to be given the following pub. in this city :

1630.—*Erledigung einer schweren in Assecuration Sachen, vorgestellter Fragen: Ob nämlich, wann einer auff ein Schiff versichernlest, aber kein Prämium bezahlt u. hernacher zur See Schaden erfolgt, alsdann denselben er als Assecuratus v. den Assecuratoribus mit Rechte zu fordern vermuge.* R. Rulant [Roulандус]. Hamb. 4to.

1651.—*De Assecurationibus vulgo Assecuracien oder Versicherungen.* Herr N. Schaffshausen. Hamb.

1704.—*Cambiali seu de cambiis, in genere, et in specie, de assecurationibus, averiis et bodmeriis.* C. Thurmann. 4to.

1751.—*Commentarius de jure littoris.* Vom Strandrechte. J. Schubach. Hamb. fo.

1767–81.—*Vom Strandrechte.* 1. T. J. Schubach's *Abhandlung vom Rechte des Strandes a. d. Lat. übersetzt* (v. M. A. Wodarch). *Auf Kosten der Deputation des hamburgischen Commercii herausgeg.* v. J. C. Greilich. 2. *T. Verbesserungen u. Zusätze nebst Beilagen u. Kupfer zum ersten Theil.* Hamb. 4to.

1774.—*Anmerkungen über das Hamburg-Schiff und Seerecht.* By Herr Langenbeck.

1800.—*Einige Bemerkungen zu den jüngst erschienenen Bedingungen, nach welchen diejenigen hamburgischen Assecradeurs, welche sich die ihren Unterschriften darauf beziehen, v. 1 Jan. 1800 an, Versicherungen übernehmen.* [K***r]. Hamb.

1805.—*System des Assecuranz, etc.,* W. Beneke. See GERMANY, Sub-heading *Ins. Literature.*

1808.—*Ideen zur nähern Beherzigung der Herren Actionisten über die Fragen: ist die Fortdauer der hamburgischen Assecuranz-Campagne zu genehmigen oder nicht?* Hamb.-im Mai.

1809.—Herr G. L. W. Grasmeyer pub. in *Hamburg: Materialien zu einem Allgemeinen Plan für die Assekuradeurs in Hamburg.*

Die See-Versicherungs-Anstalten in Hamburg oder Darstellung der v. einander abweichenden oder übereinstimmenden Pläne u. Einrichtungen der hamburgischen Versicherungs-Compagnien, verglichen m. der hamburgischen Assecuranz- u. Havarie-Ordnung, etc. Hamb.

1824.—*Chronik des Hamburger See Assecuranz-Geschäftes in Jahr 1823. Nebst Ansichten über die geschichtlichen Wahrnehmungen des Herrn G. L. Grasmeyer.* Hamb. Verfolg der *Chronik u. der Ansichten.* Hamb.

1825.—*Chronik des Hamburger, etc., in Jahr 1824. Begleitet von mehreren darauf Bezug habenden Aufsätzen v. P. D. W. Tonnies.*

1826.—*Chronik, etc., 1825.*

Mirkantilisch-geschichtliche Darstellung der Barbaresken-Staaten u. ihrer Verhältnisse zu den europäischen u. vereinigten nordamerikanischen Staaten. M. besonderer Hinsicht auf die freie Stadt Hamburg. M. 1 Karte.

(*Entwurf zu einer*) *Assecuranz- u. Havarie-Ordnung v. E. Rentzel.* Hamb.

1828.—*Der Stadt Hamburg Assecuranz- und Havarie-Ordnung public, dated 10 Sept. 1731. Nebst Notification des Rath- und Bürger-Schlusses wegen sämiger Zahlung der Assecuranz-Prämien.*

1832.—*Manual de seguro maritime conforme as leis, usos e costumes observados na praça d'Hamburgo, v. L. C. Rebello.* Hmbro.

1832-4.—*Darstellung des See-Assecuranzrechtes nach gemeinem und Hamburgischen Rechte, und nach der Gesetzen der Vorzüglichsten handelnden Staaten Europa's und Americas, v. M. Pöhls.*

1840.—*Kurzgefasste Uebersicht und Vergleichung der gewöhnlichsten Bedingungen und Usancen bei Versicherungen gegen See-Gefahr, wie sie auf den Haupt-Versicherungsplätzen Europa's in Wirksamkeit sind (A. d. Franz) v. M. Morel.*

1843.—*Entwurf eines allgemeinen Plans hamburgischen See-Versicherungs, v. C. A. auff'm Ordrt. 4to.*

1. (? by H. C. Harder) *Plan der Lebens-Versicherungs-Societät "Hammonia" in Hamburg. 2. Beispiele über die Nutzanwendung v. Lebensversicherungs m. besonderer Rücksicht auf die bei der Lebensversicherungs-Societät "Hammonia" in Hamburg bestehenden Einrichtungen.*

2. *Revidirter Plan der Lebens-Versicherungs-Societät Hammonia in Hamburg, 5 Afl. Jul. 1848.*

3. *Plan der Renten- und Pensions-Anstalt der Lebens-Versicherungs-Societät "Hammonia" (Dec. 1848).*

1851.—*Urkundliche Geschichte des Hausischen Statthofes in London, v. Dr. John Martin Lappenberg.*

Life Ins.—The following furnishes a brief account of the several Life Offices which have been founded in this city.

1731.—The Ins. Ordin. of this city under this date gives the form of pol. to be used in cases of Life Ins. ; and exhibits entire familiarity with the nature of the Ins. [**LIFE INS. POL.**]

1806.—The first Life Ins. Asso. attempted to be estab. in Germany was founded at this date, in this city, by Herr W. Benecke, whose works on Marine Ins. afterwards became so famous. It was based upon the model of the *Amicable* of London, but speedily came to disaster, and had to be wound up. [**GERMANY, Life Ins.**]

1845.—There was founded the *Hammonia* Life Assu. So. (*Die Lebensversicherungs Societät Hammonia in Hamburg*), on the principle of the *Gotha* Life Ins. Bank, which at this date was very popular all through Germany. The regulations and the rates of prem. were the same. It made fair progress for a purely local Asso. At the close of its second year it had issued pol. insuring £64,275, and yielding in prem. £3439 ; but its mort. was so great as to show that a great selection had been made against it. This, combined with a high expenditure to procure bus., became so serious in 1849, that the managers found it desirable to alter the constitution of the Asso. from a mut. to a proprietary basis—the authorized cap. being 1,000,000 marcs banco (£75,000), whereof 10 p.c. was to be paid up. As a matter of fact, the sum subs. did not exceed £35,714, of which not more than £4587 was paid up. The Co. on this new basis lasted some few years longer ; but before 1859 it had passed into liquidation, and its assets were not expected to realize more than 30 p.c. on its liabilities.

1847.—There was founded the Life and Annuity Assu. Co. *Janus* (*Die Lebens und Pensions-versicherungs-gesellschaft Janus in Hamburg*), with a share cap. of 1,000,000 marcs banco (£75,000) in 200 shares of 5000 banco marcs each (£375), of which 10 p.c. was paid up. Seven-tenths of the profits were to be divided among the parti. holders. The Co. undertook Life Ins. in all the classes then ordinarily practised. The conditions were analogous to those of the British Cos. at the same period. The Co. took a successful stand almost from the commencement ; and by the end of 1849 it had 1181 pol. on its books, insuring £164,000, and yielding in prem. £7562. At the end of 1878 the prem. income had reached £81,840, and its total assets stood at £652,110. This is still the only Life Asso. belonging to the city.

1859.—About this date the *Hammonia* Life Co. ceased to exist for practical operations. Herr Hopf says: "It was reduced to such a sadly ruinous condition by the unsoundness of its operations, especially by too high expenses of administration, that it could no longer meet its obligations, and was obliged to declare itself insolvent." The share-cap. subs. appears never to have exceeded £35,714; and of which only £4587 was paid up. "Many shareholders now refuse to pay up the bal. of their shares; for which reason many actions must be brought against them, the result of which is very doubtful. It is doubted whether the creditors of the *Hammonia* will receive more than 30 p.c. of their claims at the settlement of the bankruptcy."—*Assu. Mag.* vol. ix. p. 45.

Marine Ins.—This branch of bus. appears to have been practised in this city from a very early period, vide HAMBURG MARITIME AND INS. ORDINANCES OF.

1806.—At this date there were 16 private underwriters and 30 Cos. carrying on the bus. of Marine Ins. in this city.

1814-49.—The following return of the total amounts of Marine Ins. bus. transacted in this city during this period, and the average rate of prem. obtained, was communicated by Herr Wilhelm Lazarus to vol. ii. of *Assu. Mag.* (1851):

Year.	Amount Insured.	Average Prem.	Year.	Amount Insured.	Average Prem.
	£			£	
1814	3,134,325	3 $\frac{9}{16}$	1832	15,218,850	1 $\frac{7}{16}$
1815	6,553,425	3 $\frac{9}{16}$	1833	14,902,425	1 $\frac{1}{16}$
1816	9,329,850	2 $\frac{5}{8}$	1834	14,207,550	1 $\frac{1}{8}$
1817	11,303,100	2 $\frac{1}{8}$	1835	14,642,475	1 $\frac{1}{8}$
1818	13,192,425	2 $\frac{1}{8}$	1836	16,486,050	1 $\frac{1}{8}$
1819	9,690,825	1 $\frac{1}{8}$	1837	16,091,625	1 $\frac{1}{8}$
1820	11,309,325	1 $\frac{1}{8}$	1838	16,812,270	1 $\frac{1}{8}$
1821	9,676,200	2 $\frac{1}{8}$	1839	18,846,105	1 $\frac{1}{8}$
1822	7,371,000	2 $\frac{1}{8}$	1840	20,002,222	1 $\frac{1}{8}$
1823	7,492,050	3 $\frac{1}{8}$	1841	20,428,140	1 $\frac{1}{8}$
1824	7,543,425	2 $\frac{1}{8}$	1842	17,938,605	1 $\frac{1}{8}$
1825	9,316,800	2 $\frac{1}{8}$	1843	19,889,935	1 $\frac{1}{8}$
1826	8,538,075	2 $\frac{1}{8}$	1844	22,027,103	1 $\frac{1}{8}$
1827	9,701,460	1 $\frac{1}{8}$	1845	24,847,005	1 $\frac{1}{8}$
1828	10,687,065	1 $\frac{1}{8}$	1846	22,782,045	1 $\frac{1}{8}$
1829	12,000,660	1 $\frac{1}{8}$	1847	27,083,798	1 $\frac{1}{8}$
1830	14,250,592	1 $\frac{1}{8}$	1848	18,734,513	2 $\frac{1}{8}$
1831	13,580,250	1 $\frac{1}{8}$	1849	21,086,040	1 $\frac{1}{8}$

The following remarks on this T. were offered: The amount insured has considerably increased of late years, and the average prem. has diminished. For the 8 years 1816 to 1823 inclusive, the average amount insured was £9,920,595, the average prem. being 2 $\frac{9}{16}$ p.c. From 1824 to 1831, £10,702,290 insured, at an average prem. of 1 $\frac{1}{8}$ p.c. From 1832 to 1839, £15,900,915 insured—the average prem. being 1 $\frac{1}{8}$. And from 1840 to 1847, the average amount insured had increased to £21,874,845—at an average prem. of 1 $\frac{1}{8}$ p.c. In the year 1850 the insurances were £23,451,495, and the prem. received £365,555, being about 1 $\frac{1}{8}$ p.c.

1850.—The amount of Marine Ins. estimated to be in force in this city, at this date, was £23,451,000; yielding a prem. of £365,500, made up as follows:—

Insured by	22 Hamburg Cos.	£20,861,745	prems.	£326,413
"	Private underwriters	1,500,000	"	23,437
"	Cologne Co. <i>Agrippina</i>	615,000	"	8,100
"	Russian Sea & River Co.	474,750	"	7,605

Total 23,451,495 " 365,555

We give a chronological T. of the 22 Cos. referred to, the oldest dating back to 1816 only, on the top of the following page.

1855.—Herr Wilhelm Lazarus of this city contributed to the *Assu. Mag.* (vol. v. p. 221), a paper: *An Inquiry into the Marine Ins. of Hamburg*; wherein many details then of interest were given. From this paper we learn that the number of Marine Ins. Asso. from being 18 in 1836, rose to 24 in 1846; fell to 22 in 1849; and again rose to 23 in 1853. Three of these have been Fire Cos. also; but the *See und Feuer* Co. renounced the latter branch at the end of 1852. External events exercised an influence over the amount of Marine Ins. transacted—as the fire of 1842, the crisis of 1846, and the Revolution of 1848. Fluctuations were also found in the ordinary results of the bus. (p. 232):

But we can record, as a fact for congratulation, that in no year was the income exceeded by the losses, and that even in 1852 the receipt of prem. is only about 2500 banco marcs less than the claims.

Estab.	Name of Company.	No. of Shares.	Amount of each Share.	Paid per Share.	Amount Insured. 1850.	Total Receipts.
1816	Neue 3 ^{te} Versich. Ges. v. 1816	200	£ 225	45	1,830,533	28,143
1820	Patriotische Ass. Co.	200	600	195	1,222,553	20,396
1830	Neue 3 ^{te} Ass. Co.	160	225	45	1,770,967	33,305
1834	Neue 6 ^{te} Ass. Co.	150	225	45	1,236,353	17,326
"	Assecuranz Compagnie	200	225	45	513,210	5,791
1835	Neue 8 ^{te} Ass. Co.	175	225	45	525,180	7,832
1838	Elb. Ass. Co.	200	225	45	1,421,122	22,257
"	Neue Ass. Co. v. 1838	200	225	45	393,450	4,717
1839	Assecuranz Co. v. 1839	160	225	45	728,565	9,228
1840	Assecuranz Co. v. 1840	160	225	45	901,905	17,166
1842	See und Fluss Ass. Co.	160	225	45	1,728,825	30,220
1843	See und Feuer Ass. Co.	200	300	60	950,025	14,634
"	Neue 5 ^{te} Ass. Co.	500	225	45	795,188	15,228
"	Neue 12 ^{te} Ass. Co. v. 1843	100	225	45	276,592	3,785
1845	Assecuranz Union	160	225	45	1,258,890	19,800
1846	See Assecuranz Co. v. 1846	150	225	45	1,210,853	18,487
"	Neue Ass. Co. v. 1846	200	225	45	954,412	14,863
"	Neue Ass. Societät	160	225	45	827,888	11,106
"	7 ^{te} Ass. Co. v. 1846	200	225	45	585,840	8,279
"	Oceanus Ass. Co.	160	225	45	474,097	9,843
1850	10 ^{te} Ass. Co. v. 1850	150	225	45	849,247	7,760
"	See Ass. Co. v. 1850	150	225	45	400,050	6,247

I think no better testimony could be given to the solidity of our Marine Ins. bus. *It is very surprising that good years and bad ones alternate with great regularity*; and adding 2 years

Damages..... 1847-48 1849-50 1851-52
 77 874 81 205 89 677 p.c. of income,
 the average of the whole period is 1'326 p.c. of the insured sum; 82'709 p.c. of the receipt of prem. The difference of the maximum, 1'794 p.c., and the minimum, 1'075 p.c., is 0'719 p.c.; whilst the difference of the maximum of the average prem. in this period, 2'085 p.c., and the minimum, 1'534 p.c., is only 0'551 p.c. These numbers do not allow of any law being deduced from them; and I think the laws must be too complicated to be observed in this short period. . . .

Again (p. 236):

It seems to me highly interesting to observe within what narrow limits the fluctuations of all claims, compared with the sums insured, are found—especially in the period 1836 to 1846. Omitting the year 1845, the limits are 1'140 and 1'347; and the deviation of 1846 must be attributed to the *See Assecuranz Co.* of 1844, the hist. of which we have given before. The fluctuations are more considerable in the period 1847 to 1853—the year 1848 proves the worst; how much of this result must be ascribed to the Holstein war I am not prepared to say. Nor am I prepared to say whether the preceding T. would justify the conclusion that losses in general have increased in modern times; I am sorry that it seems to indicate that the losses of insurances effected in Hamburg have become heavier. It would be highly interesting to know whether this is caused by more frequent or by more heavy losses. . . .

We regret that we have no more recent investigations of this class to fall back upon.

1864.—There commenced to be pub. the "Hansa," a monthly newspaper devoted exclusively to Maritime affairs.

1879.—The Marine Ins. Cos. belonging to the city at this date are the following, arranged in the order of their estab.:

		No. of Shares.	Amount of each Share.	Paid per Share.	Amount Insured. 1879.	Total Receipts.
1820	Patriotische	200	600	195	£ 2,133,415	£ 18,867
1835	Neue 8th Ass. Cie.	175	225	45	2,195,700	17,306
1843	Neue 5th Ass. Cie.	500	225	45	3,429,075	29,149
"	Neptunus	200	300	60	2,440,950	25,972
1855	See und River Cie.	200	225	45	2,474,665	26,382
1856	7th Ass. Cie. of 1856	200	225	45	845,510	6,962
1857	Nord-Deutsche Ver.-Ges.	500	225	45	28,999,585	380,416
1860	Ass. Cie. of 1860	160	225	45	2,171,110	19,312
1863	Globus Ass. Cie.	160	225	45	2,409,080	24,658
"	Assecuranz Union	200	375	75	4,952,600	41,520
1866	Assecuranz So. of 1866	160	225	45	3,317,025	45,793
1873	Versich. Ges. of 1873	125	375	75	5,761,415	66,555
1874	Assecuranz Cie. of 1874	400	375	75	20,580,535	272,770
1878	Nord-Deutsche Rûchvers	200	375	75	4,189,630	48,439
"	Re-asssecuranz Cie. of 1878	200	250	50	1,831,310	16,549

Here we have only 15 against 22 Cos. in 1850, and most of these are either new or re-organized; but the volume of bus. has enormously increased, as is seen from the following summary :

Insured by 15 Hamburg Cos.	£87,846,605	Prem. £1,038,155
„ Private Underwriters	3,500,000	„ 41,305
„ 19 Other Cos. (Agencies)	22,256,280	„ 140,305
Totals	£113,602,885	£1,219,765

Of these last, 16 are German, 2 Austrian, and 1 Russian.

The following is a quinquennial combination of the T. of the total Marine Ins. bus. effected in Hamburg since 1849 (see above), and the average rate of prem. :

The progression has not been quite regular : the years showing the greatest advances have been 1856-7, followed by a depression, from which progressive recovery was not made until 1868. The year 1877 showed great progression, followed by a depression in 1878.

Military Service, Ins. Against.—A Co. —the *Deutsche Militärdienst-Versicherungs-Anstalt*—was founded in this city in 1878 for the purpose of providing military substitutes. We believe this is the only Co. of its class in the German Empire.

	Amount Insured.	Average Prem.
1850	24,052,815	1 ⁹ / ₁₆
1855	40,588,061	1 ⁹ / ₁₆
1860	47,471,692	1'34
1865	47,004,177	1'28
1870	65,072,369	1'20
1875	89,440,630	1'24
1878	104,922,920	1'15

Mortality Tables.—See sub-heading *Widows Funds*.

Reinsurance Cos.—There are several Reins. Cos. for Fire and for Marine risks in the City. See Tables of Cos. under Sub-headings *Fire Ins.* and *Marine Ins.*

Widows Funds.—In 1835 there was founded the *Pensions-Casse for Widows and Children of the Employés of the State of Hamburg*. This is a Gov. Institution. The employés contribute about 3 p.c. of their salaries. The rate of contribution is not affected by the relative age of husband and wife. The Gov. grants an ann. subvention in support. A quinquennial valuation is made; rate of int. 4 p.c.

1874.—There was pub. by Herr Wilhelm Lazarus, the Actuary of the Asso. of Hamburg: *Die Grundlagen für die Bilanzen der Pensions-Casse für die Wittwen und Waisen der Angestellten des Hamburgischen Staats* [The data for the valuation of the Pension Casse for the Widows and Orphans of the Employés of the State of Hamburg]. Herein was contained a new Mortality Table based upon the experience of the Association up to 1872, of which the following is a quinquennial abstract of the principal columns :

Mort. of the Widows Fund of the State of Hamburg (Lazarus, 1874).

MALES.

Age.	Living.	Dying.	Prob. of Surviving a Year.	Prob. of Dying in a Year.	Expect.	Value of Annuity.	Age.
16	491,336	2,424	'995065	'004934	45'532	19'417	16
20	481,295	2,666	'994459	'005540	39'377	18'787	20
25	467,206	3,069	'993430	'006570	35'488	17'903	25
30	450,833	3,613	'991984	'008015	31'683	16'910	30
35	431,403	4,332	'989956	'010043	27'995	15'810	35
40	407,976	5,258	'987112	'012887	24'454	14'611	40
45	379,484	6,402	'983128	'016871	21'696	13'328	45
50	344,860	7,740	'977555	'022444	17'956	11'982	50
55	303,307	9,167	'969776	'030223	15'064	10'601	55
60	254,769	10,459	'958945	'041054	12'447	9'220	60
65	200,603	11,248	'943926	'056073	10'125	7'874	65
70	144,232	11,075	'923211	'076788	8'105	6'599	70
75	91,267	9,595	'894859	'105140	6'387	5'4283	75
80	48,261	6,926	'856474	'143525	4'959	4'3838	80
85	19,828	3,860	'805287	'194742	3'798	3'4806	85
90	5,713	1,495	'738467	'261532	2'875	2'7225	90
95	1,000	346	'653811	'346188	2'159	2'1038	95
100	86	39	'550966	'449033	1'615	1'6120	100
105	2	1	'433160	'566840	1'213	.....	105
110	.....	.....	'308882	'691117	'879	.....	110

FEMALES.

Age.	Living.	Dying.	Prob. of Surviving a Year.	Prob. of Dying in a Year.	Expect.	Value of Annuity.	Age.
16	500,554	2,238	'995527	'004472	45'713	19'982	16
20	491,336	2,424	'995065	'004934	42'532	19'417	20
25	478,628	2,737	'994280	'005719	38'594	18'619	25
30	464,136	3,165	'993179	'006821	34'714	17'713	30
35	447,220	3,742	'991631	'008368	30'935	16'698	35
40	427,070	4,500	'989461	'010528	27'274	15'578	40
45	402,718	5,469	'986419	'013580	23'767	14'361	45
50	373,081	6,656	'982157	'017842	20'450	13'063	50
55	337,120	8,023	'976199	'023800	17'357	11'708	55
60	294,140	9,446	'967885	'032114	14'518	10'324	60
65	244,310	10,671	'956319	'043680	11'959	8'946	65
70	189,354	11,305	'940294	'059705	9'696	7'612	70
75	133,157	10,889	'918222	'081777	7'737	6'356	75
80	81,671	9,141	'888070	'111930	6'079	5'208	80
85	41,334	6,309	'847354	'152645	4'706	4'191	85
90	15,967	3,301	'793259	'206740	3'595	3'317	90
95	4,219	1,168	'723011	'276989	2'716	2'587	95
100	653	238	'635658	'365341	2'037	1'995	100
105	47	22	'528414	'471586	1'524	.....	105
110	12	.....	'408446	'591553	1'147	.....	110

We have again to thank Herr G. G. Pohl and Herr Wilhelm Lazarus for replying to various queries, and supplying items of information of consequence in the preparation of the present art.

HAMBURG, MARITIME AND INS. ORDINANCES OF.—The first Marine Ordin. of this city was promulgated as early as A.D. 1270 (vide *Black Book of Admiralty*, 1876, vol. iv. p. 369, n.); and Reddie, in his *Historical View of the Law of Maritime Commerce* (1841), says :

There can be no doubt that before the City of Hamburg received its charter of legislation from the Count of Holstein, in 1292, its mercantile and seafaring inhabitants had agreed among themselves upon certain customary rules for the regulation of their transactions, and to serve as a guide for the Judges of their disputes; and from documents discovered by M. Lappenberg, and printed by M. Pardessus, it appears that from 1256, or, at the latest, 1261, commerce was regulated at Hamburg by maxims which we again find in the codes that were afterwards compiled.

The most ancient monument, however, of the Laws of Hamburg which is known, is a series of 28 art., to which it is generally agreed to give the date 1270. Of these art., some appear to have been composed for the commercial factories which Hamburg had estab. in Flanders; but the greater part present rules applicable to commerce in all the places to which the navigation of Hamburg extended. It must, however, be always borne in mind that the greatest part of these primitive regulations, and even the statutes, which in the sequel unfolded maritime law still farther, were not intended to form complete bodies of legislation. There evidently existed general and common usages, arising in the earliest times in which navigation had acquired any importance, and preserved by tradition. The subsequent written regulations which presuppose them, had for their object either to rectify these usages agreeably to experience, or to modify them agreeably to some particular necessities, or to render more certain some points upon which people had not agreed or been at one. And this, while it explains, at the same time affords an excuse for, their insufficiency and imperfection, sometimes also their obscurity; because allusion is there made to matters of which there is no longer a distinct conception or knowledge.

This series of articles of 1270 is annexed to almost all the copies of the most ancient Civil Stat. of Hamburg. Another ed. under date 1306 contains 5 add. art. of maritime law, of which one corrects, or replaces art. 14 of the preceding series.

When, in 1497, the City compiled and digested its new Civil Stat., a special title was devoted to maritime law. The art. of 1270 and of 1306 were then recast in a new order, and with add. which, notwithstanding the numerous matters borrowed from the former stat., formed a new work. Mr. Reddie is of opinion that the Laws of Wisby, or at least the 2nd and 3rd parts, borrowed from the southern and northern Low Countries, had previously served at Hamburg as a kind of subsidiary law; and the compilers of the new maritime stat. had borrowed much from these different documents.

In 1603 the city again revised its civil legis.; and the 13th title of the 2nd part of the stat. is allotted to maritime law, and has been reprinted in an official ed. in 1771, and especially commented upon by Langenbeck [1774]. This stat. makes no mention of Ins., although (as Mr. Reddie points out) "*these were very prob. by that time known to and practised by the merchants of Hamburg*, who then seem to have followed, in this department of bus., the jurisprudence of the Netherlands, their pol. being framed according to the custom of the Bourse of Antwerp." In support of this view may be quoted the work of Rulant (or Roulandus), pub. 1630, wherein is contained a dissertation upon the Law of Hamburg respecting Ins.

Subsequent Ordin. were promulgated respectively in the years 1677, 1683, 1687, 1693,

1697, and 1704; and these were finally incorp. in the Ins. Ordin. promulgated in 1731, to which we now proceed to refer in some detail, as being the most complete of any promulgated in Europe.

1731.—*Marine Ins. Ordin.*, or, "Order of the City of Hamburg concerning Ins. and Averages, anno 1731," which recites:

Whereas at a meeting of the Magistrates and Common Council held on the 3rd of this month, the following Order concerning Ins. and Average was enacted for the benefit and security of Trade and Navigation, and for the better prevention of contests and processes relating thereto; but it being absolutely necessary to be known in foreign parts, this Order cannot commence or have the force of Law till the next year, 1732; and that everybody may have timely notice and information, the Magistrates and Common Council have ordered it to be printed and made public; and all persons, especially those concerned in commerce, are hereby warned and directed, after the above-mentioned term, in all ins. contracts, executed within the jurisdiction of this city, to conform to the said Order, *and in the pol. to use no other form than that here annexed*: as all disputes on these points will be determined in law according to the said form and the present Order.

Ordin. Relating to Assu. and Averages.—Title I.—"Of Pol." I. No forms of pol. shall hereafter be made use of in any contracts of assu., but the seven sorts agreed upon in art. iii., and printed at the end hereof. II. *The condition of submitting to the Customs of the Exchange of Antwerp, shall for the future be no longer inserted in the pol.*, as has been hitherto practised; but whatever occurs in cases relating to assu. and averages shall hereafter be adjudged and decided according to this Ordin.

III. The above-mentioned forms pub. in print, in the German language, and whereof everybody is to make use in Assu., consist of the following:

1. Upon the Casco or the Hull of the Ship. [MARINE INS. POL.]
2. Upon the Cargo or Goods on board. [MARINE INS. POL.]
3. Upon Bottomry or Freight money. [BOTTOMRY.]
4. Upon Greenland and other Fisheries. [FISHERY INS.]
5. Upon the Life of Persons. [LIFE INS. POL.]
6. Against Risk from the Turks. [CAPTIVITY, INS. AGAINST.]
7. Upon Goods that are carried on Rivers or by Land. [INLAND TRANSPORT INS.]

IV. In order to fill up the pol. regularly it is required that there be expressly mentioned in them:

1. The name of the person, the assu.: however the same may be left out, and the pol. filled up to the bearer only.
2. A specification of the subject or thing on which the assu. is made; and here it is left to the choice of the assured to mention whether the goods are, or if the assu. is made for his own or a stranger's account.
3. The time when the ship departed from the place where the risk begins.
4. The place of shipping and unloading.
5. The names of the ship and master.
6. The prem., at what rate the same has been given; and
7. The name of the sworn broker that made the assu.

V. Everybody may put a Valuation in the pol. upon his ship and goods, or not. But whatever is once inserted must neither be altered, nor anything added unto it, without the knowledge and consent of all the assurers in general, under the penalty of rendering the assu. of no value.

Title II.—"Of the Persons that can Assure or make Assu."

- i. It is permitted of every person who has passed the years of minority to assure, if the party making the assu. is satisfied with it.
- ii. But it is absolutely forbid, for any of the Assu. Brokers, or likewise the Dispatcher of Averages, to assure others. And if the same should be done, such assu. shall be held null and void, and the Broker or Dispatcher shall be arbitrarily punished for the same.
- iii. Whoever has no interest in a ship or cargo, is not to make any assu. of the same, unless he has orders for so doing from some of the parties concerned.
- iv. Masters, mates, and seamen may make assu. upon any merchandize they carry along with them, but not on their pay or wages.

Title III.—"Of the Things that may be Assured":

i. Every one may assure, or cause himself to be assured, upon anything that is sent or expected by Sea, on Rivers, or by Land, whether it be relating to the Ship or Cargo, Gold or Silver, Jewels, Money or Moneys-worth, as likewise Freight and Bottomry Money, Greenland and other Fisheries, *besides the Lives and Liberty of Men, against the Risk of the Sea and the Turks, and so forth.*

ii. Assu. is also allowed to be made upon an expected or imaginary Profit (as it is called), upon Commission, against risk of Fire, Water, and War, as well as upon the Rise or Fall of the Prices of Goods, and in all other cases whatever. But whenever an assu. is to be made upon Houses, Warehouses, and Cellars, or any other things that *are deemed extraordinarily hazardous, the same is permitted to be done; but in those cases the common pol. shall not be made use of, but a particular agreement in writing shall be made between the parties, which shall be equally valid and binding as the pol., and shall be proceeded upon at law in the same manner.*

iii. Every one is at liberty to cause himself to be assured in full, as well for the principal, as the prem. he has paid, or likewise for the prem. [participation in profits?] which ought to be given on the prem., without the necessity of running any danger or risk, nor mentioning anything about it in the pol.

Title IV.—"Of the Clauses or Conditions of the Pol."

i. Whoever is desirous in any particular case to add one or more Conditions or special restrictions to the said pol. over and above the usual obligation contained therein, must take care that the same be expressly inserted in the pol. before it is signed. And such Clauses added in writing, if the assurer by his underwriting agrees and consents thereunto, shall not only be deemed equally valid with everything else contained in the pol., but shall even have the preference to what is printed, in so far as it differs from, or contradicts the same.

ii. When the assured, after the assurance is already done, and the pol. underwrote, wants to add still some Clauses, or fresh Conditions; in such case those that sign and accept of such Condition are bound thereby; but the others that will not sign it are in no way obliged to it.

Sections iii. to vi. inclusive, and also xv. relate to CONVOY—a matter which need not now be followed out. It was provided by sec. iv. "that the Convoy must actually be at enmity with the enemies of the ship on which the assu. is made."

vii. By Risk of the Sea is understood all manner of risk that can be imagined, even the risk of the *Turks* itself. But when in time of War, an assu. is made against the risk of the Sea only, then a clause must be added to the pol., to be free from Restraint or Confiscation by any Christian Potentate, and the charges occurring from thence. Or if it is not actually inserted, yet it shall always be taken for granted that it was meant so.

Sections viii. to xi. relate to PERISHABLE GOODS; PRECIOUS METALS (which were allowed to be insured); CONTRABAND OF WAR; and PRIZES, and are referred to under these heads.

xii. Everybody is always at liberty to cause himself to be assured at the time and in the manner he finds most convenient. But he is obliged to acquaint the assurers faithfully with the advices he has concerning the Ship, and to insert the same in the pol. whether and how long the Ship has been departed from the place where it took its Loading, or whether it still remains there, or at what other place else it lies. But if no notice is taken thereof in the pol., then it is to be looked upon as granted, that the ship was actually still at her loading place, according to the freshest advices and accounts which the assured knew, and had, or at least could have, received at the time of making the assu. But if at that time the ship was already departed, or had been on her passage above the usual Time, and he that made the assu. was acquainted with it, but took no Notice thereof, then the assu. is of no Value, but the assurer is entitled to keep the whole prem.

xiii. When the party that makes the assu. has ingenuously and faithfully mentioned in the pol. the Accounts and Advices as he has received from his correspondents, let it be of what nature it will, and whether it falls out so or not, then the assu. remains in full force, and the assurers are in all cases bound by it; but being deficient therein, they are not obliged to anything.

xiv. If any one wants to make assu. beforehand on the Voyage to be hereafter undertaken by a ship that is not arrived yet, he must express such circumstance in the pol.

Title V.—"Of the Risk and Dangers which the Assurers are liable to."

i. The Assurer is to bear all Perils and Risks, Losses, and Damages, that may by any manner of means befall or happen to the ships or goods, whether it be by Storm, Tempest, Shipwreck, being over set, running on shore [stranding], Jettison, Fire, Captures, or Plunderings, Hostile Detentions by Foreign Powers, Declarations of War and Reprisals, Misbehaviour, Mistake or Neglect of the Master and his People, and in general all other accidents that can be thought of or not, in so far as they are not expressly limited or excepted by this Ordin., or that the contrary has been particularly stipulated in the pol.

Sections ii. to x. inclusive relate to matters such as ICE; LOSS BEFORE INS.; PERISHABLE GOODS; QUARANTINE; SEIZURE AND CONFISCATION; SOVEREIGN POWERS, DETENTION BY; TERMINATION OF RISK; referred to under these respective heads.

xi. The Danger and Risk of the Goods, which the Assurer takes upon himself, begins immediately from the Time that the Goods depart from the Shore, and continues until that they are delivered in good condition on Shore again, at the place where they are designed for, which is to be done as soon as it conveniently or possibly can, after Arrival there. [COMMENCEMENT OF RISK.]

xii. The risk or danger of an Assu. upon the Hull of a Ship begins from the time that the ship first began to take in its Loading or Ballast, and endures until her arrival at the Place for which it was bound, according to the Pol., and is thereby entirely discharged, agreeably to what is ordered in the foregoing article.

xiii. When the Owners or Loaders of a Ship make use of the same in the nature of a Warehouse in Port: as for example not to unload the goods when it could conveniently be done, or to let the ship lie in Harbour on purpose to take goods on board from other Ships lying there, and then to carry them on Shore, or put them on board of some other vessel; or to put the goods they have received from Shore, and taken on board, over into other Vessels and Ships without Necessity, or to carry them on shore again, then the assurer is not answerable for any Risk, but the same remains entirely for account of those, with whose knowledge and consent the same was done.

xiv. When some Assurers have insured on the Hull of a Ship for her Outward-bound Voyage, and others on her Return homewards, then the risk begins and ends, as to what relates to the Beginning and Determination thereof, according to what is regulated in the preceding art. xii. But the risk of those that have underwrote on the return homewards, begins as soon as the ship has made a beginning to take in any Goods for her Back Freight, notwithstanding all the goods which she carried there are not entirely unloaded, and continues until the ship is safely returned at the place of its discharge, to which it was bound, and is completely unloaded there. [DURATION OF RISK.]

The following sections under this title relate to STRANDING; TIME POL.; VOYAGE ALTERED OR DEFERRED; VOYAGE INCOMPLETE.

Title VI.—“Of the Return of Prem.” [RETURN OF PREM.]

Title VII.—“Of Neglects of the Master and Ship’s Company.” [NEGLECT.]

Title VIII.—“Of Damages occasioned by ships running foul of or running down one another.” [MALICIOUS INJURY.] [RUNNING DOWN OF SHIP.]

Title IX.—“Of Assurances upon Money lent upon Goods going by Sea and Bottomry.” [BOTTOMRY.] [RESPONDENTIA.]

Title X.—“Of Assurances against Risk from the Turks, and upon Men’s Lives.” [CAPTIVITY, INS. AGAINST.] [LIFE INS.]

Title XI.—“Of Relinquishing the Ship or Goods to the Assurers.” [ABANDONMENT.]

Title XII.—“Of the Valuation of Losses.”

i. The damage that happens to the Hull of a Ship is, according to ancient custom, to be valued by the Elders of the Ship-Carpenters, Rope-makers, and Sail-makers appointed for that purpose; but at the same time *a particular regard is to be had whether the Ship and its Equipage were new or old*, and the valuation to be regulated accordingly. [NEW FOR OLD.]

The other sections of this title will be noted under VALUATION OF SHIPS AND CARGO.

Title XIII.—“Of Proving a Loss.” [LOSS OF SHIP, OR CARGO.]

i. Whoever demands payment of a loss must prove that he has suffered such a loss, etc., etc.

Title XIV.—“Of Ships running ashore and the Salvage of the Goods Stranded.” [SALVAGE.] [STRANDING.]

Title XV.—“Of Ships taken, their Ransom and Reclaiming.” [PRIZES.] [RANSOM OF SHIP.]

Title XVI.—“Of the Notification and Payment of Losses.” [NOTICE.]

Title XVII.—“Of the Time limited for demanding of Damages, and when they are out of Date.” [LOSSES.]

Title XVIII.—“Of Re-Assurance.” [RE-INSURANCE, MARINE.]

Title XIX.—“Of Arbitrators and Deputies.” [LITIGATION.] [MARINE INSURANCE, PRACTICE OF.]

Title XX.—“Of Fraud, and the punishment thereof.” [INS. FRAUDS.]

Title XXI.—“Of Averages, and how they are to be settled.” [AVERAGE, MARITIME.]

Title XXII.—[JETTISON.]

Title XXIII.—“Of Brokers and the Premium.” [INS. BROKERS.]

Then follow the several forms of pol. authorized to be issued in conformity with this Ordin.

1868.—The Hamburg Chamber of Commerce caused to be translated into English the *General Conditions of Marine Ins.* 1867, based upon the German general mercantile law, and adopted as the result of the deliberations of competent persons in the North German seaports. The preceding Ordin., if not actually annulled, must be considered as explained by these new conditions.

HAMILTON, ANDREW.—Was Sec. of *Alliance F. and L.* from its formation in 1824, down to 1853, when he died. He was one of the founders of the *Record* “evangelical newspaper for Church readers” in 1828, and was for many years most zealous in its management.

HAMILTON, ARTHUR R.—Was Sec. of *Royal Naval and Military* from 1864 down to its amalg. in 1866.

HAMILTON, ROBERT, LL.D. — Professor of Philosophy in the Marischal College, Aberdeen. Pub. 1777-79: *Intro. to Merchandize*, which passed through several eds.; 5th ed. 1802. “Of very considerable merit.”—*M. Culloch*. This work contains an account of the Trade of Gt. B., and the Laws and Practices relating to Sale, Factorage, Ins., Shipping, etc. There is very little in it of any practical value at the present date.

HAMILTON, R. W.—Act. of *British Legal* since 1870.

HAMILTON, W. R.—Prof. of Astronomy at the University of Dublin, and afterwards (1827) Astronomer Royal for Ireland; pub. various works on Mathematics in Dublin between the years 1834 and 1853.

HAMILTON’S MATHEMATICAL TABLES.—Pub. 1807. [LEASES.]

HAMMICK, JAMES T.—Barrister-at-Law, for some years Sec. of the Regis.-Gen. Department, Somerset House, and Keeper of the Records there; from which position he retired in 1878. For many years he took a deep interest in the affairs of the Statistical So., and read various papers before its members, some of which do not fall within our scope for detailed notice here.

1859.—He read a paper before the Social Science Congress [Bradford meeting]: *On the Relation between Density of Pop. and Mort. from Consumption*, which we have noticed in some detail under CONSUMPTION, at this date.

1861.—He was Assistant Commissioner in the taking of the Census of Gt. Britain this year; and read before the British Asso. [Manchester meeting] a paper: *On the General Results of the Census of the U. K. in 1861*, an abstract of which paper is given in the Rep. (p. 220).

1867.—He contributed to the *Journ.* of Statis. So. the abridgment of a paper on *Statistics of the Papal States* by Signor David Silvagni, of Rome [vol. xxx. p. 566].

1871.—He was one of the Commissioners for taking the Census. [INTERNATIONAL STATISTICAL CONGRESS.]

HAMMOND, ELISHA.—Councillor-at-Law, pub. in New York in 1840: *A Treatise on the Law of Fire Ins., and Ins. on Inland Waters*, in two parts; with an appendix of forms. [INLAND TRANSPORT INS.]

HAMPSHIRE FRIENDLY SO.—Was founded in 1825. The head office is in *Winchester*. See F. SOS. that date for details.

HAMPSHIRE SO. [sometimes called *Hamshire*] at Bell Court near Aldersgate.—Estab. 1711, for the purposes of granting *Apprenticeship*, Birth, Marriage and Service Ins. The So. intro. several new features, which we have spoken of under their appropriate heads.

In the *Tatler*, 27 Feb. 1711, there appeared the following:

At a meeting of the Trustees of the *Hampshire So.* on the 23rd February last, it was ordered that the money arising by deduction of 6 p.c. mentioned in the proposals shall be laid out in purchasing tickets in the million and half Lottery ensuing, for the benefit of such persons as are subscribers in any of their Sos. at the time of drawing the said Lottery, and shall continue so for the time mentioned in the said proposals; so that every subscriber will have a double advantage by being a member of these Sos., which will be very considerable should any of their tickets prove fortunate. Subscriptions continue to be taken in at their office in Bell Court, near Aldersgate, on Birth-days, Births of Infants, Marriages, Clerks, Apprentices and Servants, and on Wedding-days by way of Claims and Dividends.

This was one of the schemes suppressed by the Act of that year. [GAMBLING INS.]

HAMSTEAD.—A metropolitan suburban district, located on the northern heights, and once very famous for its medicinal springs. It is now chiefly remarkable for its favourable mort.—sometimes as low as 13 p. 1000, and for its rapid increase in pop.—now estimated at 45,000. Excluding non-residents, *i.e.* those belonging to other parishes, but who died in the Public Inst. here, the rate in 1879 was 12·4 as against 13·25 in 1878. The birth-rate in 1879 was 22·98 p. 1000 as against 21·4 in the previous year—this, however, is low, and prob. consequent upon the numbers of retired persons of advanced ages resident in the district, as also to the number of domestic servants. It has been recently designated, by its Health Officer, *Mons Salutis*.

HAMPTON, J. W.—Was Sec. of *Alfred Life* from its commencement down to its amalg. in 1858.

HANCOCK, WM.—Late Assessor of Fire Losses (Manchester), and for a short time Man. Director of the ill-fated *Universal Fire* (London), by which he became a very heavy loser.

He gave evidence before the Select Parl. Committee on *Fire Protection* in 1867: the following being the substance thereof:

He had, in 8 months from November last, settled claims amounting to £146,000 by payment of £104,000. *Every claimant on an Ins. Co. desires to make a profit of it.* In 14 years, out of nearly 3000 large losses, *he could not put his hand upon more than 20 claims that were entirely satisfactory.* The tendency to enlarge claims exists among the superior classes quite as much as among the lower class. He thought many fires were the result of incendiarism, and he had in some cases said to the insured, "I believe you set fire to your own place." In one such case the person claimed £1100, and at first insisted on having it; but he took £110. He gave the particulars of a most suspicious case at Bradford; the claim for £500 being settled for £30. There was another at Edinburgh, a claim for £400, settled for £20.

5443. Have you had cases in Ireland?—Yes.

5444. Is there a larger proportion there than in England or Scotland?—Yes; I have really said that I will not go to Ireland any more, because of the extraordinary claims which they make. I have said to every one of the offices, do not send me there again.

He believed many fires in cotton and jute warehouses took place from spontaneous combustion. He had himself stood by hemp and cotton and seen them begin to burn. His opinion upon the suggested investigation by a public officer, into the causes of fires, was not strongly expressed.

He thought the Petroleum Act was very often evaded.

5484. If you had a fire caused by petroleum, and you found that a man had evaded the Act, would that influence you as to paying the claim?—No.

5485. Why is that?—Because the Ins. Offices have a strong dislike to interfere in a matter of that kind.

Portions of his evidence are given under other heads. [FIRE INQUESTS.] [FIRE PROTECTION.]

Mr. Hancock died suddenly in 1876.

HANCOCK, W. J.—Consulting Actuary, Dublin. He entered the Office of the *Patriotic* in 1855, and about 1860 was appointed Assistant Sec. of that Co. In 1862 he became Sec., and held that position until 1878, when he resigned. He has a large practice as Consulting Actuary to Friendly Sos. and other Provident Asso. in Ireland.

1869.—He pub. in pamph. form, *The Ins. Laws of the U.S.*

1871.—He contributed to the *Assu. Mag.* [vol. xvi. p. 265] a note, *On the Use of the Arithmometer.*

1875.—He read before the Statistical and Social Inquiry So. of Ireland a paper: *On the Temporary and Permanent Bus. of F. Sos., with some Suggestions for Making the latter Secure through the Agency of the Post Office Ins. and Savings Bank Departments.*

HAND-BORROW.—A surety ; a manual pledge.

HAND-IN-HAND FIRE AND LIFE INS. SO. [formerly "*Hand-in-Hand CONTRIBUTION-SHIP, OR SOCIETY, FOR THE INS. OF HOUSES AND GOODS FROM LOSS OR DAMAGE BY FIRE*"].—This is the more modern title of the now oldest Ins. Asso. existing in the U.K. It was founded in London in 1696 [8th Wm. III.] under the designation of "Contributors for Insuring Houses, Chambers, or Rooms, from Loss by Fire by Amicable Contribution," which soon became shortened into the "*Amicable Contributors for Insuring from Loss by Fire*"; or yet shorter, the *Amicable Contributionship*. The designation of "Hand-in-Hand" arose at a later period from the circumstance of the *Fire-mark* of the Asso. consisting of two clasped hands. And here it may be remarked (to prevent confusion hereafter) that the Asso. now known as the *Union* [founded 1714] was for many years known as the "Double Hand-in-Hand," from having on its *Fire-mark* two sets of clasped hands crossing each other.

It has been shown in our Hist. of Fire Ins. that several other Fire Ins. projects had preceded this ; but they one by one died out, and this became the sole surviving Ins. Asso. of the 17th century. Hence it becomes of interest that its origin and hist. should be stated in some detail.

The original "Proposals" of the Asso. were dated "at Tom's Coffee House, in St. Martin's Lane near Charing Cross, where attendance is daily given," and contained the following :

Whereas the offices of Ins. from loss by Fire are for the private interest of the particular undertakers, who have made great advantage to themselves exclusive of all others concern'd therein. Now to the end that all persons who are desirous to Ins. from Loss by Fire may be accommodated upon more equal and advantageous terms, this office is erected, wherein all persons are equal sharers, in Profits as well as loss, in proportion to their Ins. in the same. And for security the D. of Sett. for constituting thereof is Enrolled in the High Court of Chancery ; which said D. of Sett., for the satisfaction of all Insurers therein, may be seen at the said office.

The whole charge for insuring for 7 years in this office is but 2s. p.c. For though every member pays down 12s. p.c. for 7 years' Ins. of brick buildings, and double for timber, yet at the end of the term 10s. is returned out of the 12s. for brick, and double for timber : and for a lesser term in proportion.

There is to be a yearly Dividend of Profits arising from Int. on Stock.

The rates for both profit and loss are settled and made by the 20 Directors who are annually chose at the Gen. Meeting held in Nov., and upon just occasion any of them may be displaced : And any member within 8 days after any rate is declared may repair to the Books (which are always open gratis) and except against it and have redress.

The Fund or Stock arises from the money paid in by every insurer, and consequently increases with the number daily, and will soon be greater than in any other office whose funds increase not.

Then, after the manner of the period, there was a comparison of the advantages it offered as against those by a competing office founded on analogous principles ; which we have set out in detail under FIRE INS., HIST. OF, date 1696.

It is here seen to have been the practice of the Asso. to require the payment down of a prem. believed to be sufficient for the 7 years ins. ; but with the liability of further contribution if it should prove not to be so. The insured signed the Deed and received a policy under the hands of three of the Trustees, and thus became a member.

The original founders of the Asso. numbered about 100 persons, prob. mostly owners of houses in the city—to which the operations were to be limited in the orig. scheme.

Having got their undertaking advanced through its first stages, the next step was to frame a deed which should carry out the views of the founders. This was accomplished with commendable skill and brevity. The Deed is dated 12 Nov. 1696, and was enrolled 23 Jan. 1698 (10 Wm. III.) in the Court of Chancery [*vide* CLOSE ROLL, 10 Wm. III. part 5, No. 18] as follows—for we give this interesting document entire, adding titles of contents in brackets.

To All to Whom these Presents shall come We Whose names are subscribed seales affixed hereunto send greeting. Whereas We have agreed to become *Contributors for the Insurance of Houses, Chambers or Roomes Within the Cities of London and Westminster and the Liberties thereof and the places thereunto adjoining*. And by Contribution to make satisfaction in case of any losse occasioned by fire upon the termes amongst us agreed and hereinafter expressed. Now know ye that for the better carrying on management supporting and settling the sd contribucons.

1. [*Election of Directors, and their powers.*].—We do consent and severally oblige ourselves our several excoers administrators and assignes to observe and keep all the Termes Articles and Agreements following (viz.) That twenty of us the sd contributors shall be elected at a General meeting by the majority of votes of such of us Who shall be present at such meeting which sd twenty are hereby declared to be Directors, Treasurers and Managers of the said contributonshipp and have the sole receiving in and issuing out of all money the nominateing and appointing placeing and displacing of all Accountants, Clerks, Bookekeepers Surveyors and all other Servants and Agents Whatsoever to be employed by the said Contributionship the appointmt and payment of all their Fees and Sallaries and the direcon of all matters relateing to the managment of the sd Contributonshipp until death refusall removeall or determinacon in manner hereinafter expressed.

2. That seaven or more of the sd Directors shall be acting and attending two dayes at least in every Week, viz. on Tuesdays and Thursdays between the hours of three and Seaven in the afternoon, five Whereof shall be and make a Quorum for the ordering and

managing all matters to be done relating to the sd Contribuconshipp and the votes and determinacon of the majority of such as shall be then present Who shall concur shall be definitive *Except in the Lending out of moneys upon Security in Which case the concurrence of the majority of the sd twenty of us shall bee requisite.*

3. That the first Twenty Directors shall be chosen at such meeting by the majority of votes of such of us Who shall be then present on the 12th day of this instant November Who shall continue so to be for one Whole yeare and no Longer unlesse newly elected againe and so successively on the first Thursday in November yearly during the continuance of the said Contribuconshipp Directors shall be againe new chosen who shall if Liveing continue in that employment for one other yeare if they shall accept Live and act unlesse removed at a general meeting to be had of us by the votes of the majority of us so meeting and upon the death refusall to act surrender and removeall of any of such Directors others to be chosen in their roome to make up and supply the defect of such member or members so dying, refusing surrendering or being removed and that at any eleccion of Directors there shall be but ten of the Old Directors Admitted to serve for the succeeding yeare Which shall be the ten having the majority of votes at such new eleccion.

4. That if any contributor or Contributors being chosen a Director or Directors in the said Contribuconshipp shall refuse or neglect to act as such for the space of one Calender Moneth Such other Contributor or Contributors as the majority of the acting Directors shall nominate shall be Director or Directors in the place or seats of such Director or Directors so refusing or neglecting as aforesd untill confirmed at the next ensuing generall meeting.

5. That if any Director or Directors for the time being shall disclose any lawfull secret Which the major part of the Directors then acting shall by their chairman give in charge to be concealed then he or they so offending shall be removed.

6. [General Meetings].—That a Generall Meeting of the sd Contributors shall be held twice in every yeare yearly on the first Thursday in May and November or Within ten days after either of the sd dayes and oftner if the major part of the Directors for the time being or any five of them or so many others of the Contributors Who shall have actually insured Within the sd Contribuconshipp to the value of ten thousand pounds Shall finde just occasion of all Which severall meeting fourteene dayes notice shall be given in the Gazette and Also in Writing to be placed and affixed att the Principall gates of the sd Cities.

7. [Trustees].—That the sd Directors for the time being by a majority of votes shall or may from time to time nominate and appoint six Trustees or more as occasion shall require Which sd Trustees or any three of them shall signe or execute all policies and other Instruments to the use or behoofe of the sd Contribuconshipp to Whom and in Whose names all Mortgages, Securities, Instruments or other Writings relating to the use of the sd Contribuconshipp shall be made or taken the sd Trustees to continue in the sd station till their respective removeall by a majority of votes as above sd release determinacon or Assignemt of their trust and when or as often as there shall remaine but two Trustees of any estate or intereste acting in any such trust new Trustees shall be chosen as aforesd to Which new Trustees the former acting surviving Trustees shall assigne all estates and interest then remaining in them at the cost and charges of the sd Contribuconshipp.

8. [Indemnity to Directors, etc.].—That all the Directors and Trustees of the sd Contribuconshipp shall be indemnified and saved harmlesse by the said Contribuconshipp from all charges and damages Which they shall or may be put unto by reason of their trust or the due execucon thereof none of them shall be chargeable for the acts or defaults of any other of them but only for the act or acts default or defaults of the person or persons committing such act or making such default.

9. [Investments].—That the Directors or major part as aforesd for the time being shall and may lend out the Stock or Funds of the sd Contribuconshipp to any person or persons at Lawfull interest and upon good security Any sume of monies reserving a necessary sume to answer contingencies by mortgage or otherwise to the use of the sd Contribuconshipp such securities if by deed or deeds being first purused and approved of under the hand of Councell Learned in the Law, provided no sume or sumes of money lent to any one person exceed one thousand pounds.

10. [Books and Papers of Asso.].—That all Directors and Trustees at their surrendering removeall or going out or other determinacon of their severall trusts or Employments shall make upp and give an account of their transactions and deliver and yield upp all monies, securities, books, Instrum^{ts} and other matters in their or any of their custody or custodies power or powers or in the custody of any other by his or their owne delivery or meanes relating to the sd Contribuconshipp to the then elected or next succeeding Directors for the time being or forfeit the moneys by them deposited in the sd Contribuconshipp and all their right and interest to the same over and besides such costs and damages as may legally be recovered for the not doing thereof.

11. [Fire Losses on Mortgage Securities].—That in case any losse or losses shall happen by reason of fire in or unto such house or houses, Chambers or Roomes of us the said Contributors Which shall be by us mortgaged and insured Within the said Contribucon-

shipp during such incumbrance or mortgage then it shall and may be lawfull for the sd Directors and Trustees of the said Contribuonshipp for the time being to detain and keep in their hands the money paid by the said Contribuonshipp on the Insurance of such House or Houses Chambers or Rooms until the principle money and interest due thereon to the Contribuonshipp be first paid reimbursed satisfied or otherwise secured any clause covenant policy Instrum^t or other Writing to the contrary thereof in any wise notwithstanding.

12. [*Loans on Mortgage.*].—That the Directors or Trustees for the time being shall not Lend or Lett any sume or sumes of money appertaining to the Stock or Funds of the sd Contribuonshipp to any member of the sd Contribuonshipp on mortgage or security of any house or houses insured by the sd Contribuonshipp which shall surmount or exceed three-fourths of the value or sume of money insured on such house or houses.

13. [*Officers to give security.*].—That all and every person or persons who from time to time shall become Treasurer or Treasurers or be intrusted with the custody or keeping of the Stock Fund moneys or other valuable matters of or belonging to the sd Contribuonshipp shall give security to the Trustees for the use of the Contribuonshipp answerable to the nature quality and value thereof to account for pay and deliver what moneys or thing he or they shall be intrusted with and faithfully performe the trust in him or them reposed by the sd Contributors.

14. [*Legal Advisers.*].—That there shall be one or more standing Councill belonging to the sd Contribuonshipp and also one or more Standing Attorney or Attorneys to be employed in the buisness and affairs of the said Contribuonshipp as occasion shall require to be elected in manner as the sd Directors are hereby declared to be chosen and elected.

15. [*Register of paid Officials.*].—That there shall be a booke or table kept by the sd Directors for the time being of all standing Wages, Fees and Sallaries allowed and paid publickly to lye within the roome or place appointed for the executing and delivering the policies relating to the sd Contribuonshipp to which every member may at all convenient times freely resort for better information and satisfaction of the Anuall disbursment and charges of the Contribuonshipp.

16. [*Office to be taken.*].—That a house, place, or roome for the sd Contribuonshipp shall be taken and rented at the general charge of the Contribuonshipp in some convenient place within the Cities aforesaid where any person concerned may search and take notes gratis of all the publick transactions and of the losse and gaine of the Contribuonshipp.

17. [*Issuing of Policies.*].—That Policies shall be delivered *wherein one house only to be conteyned* in which policies the Trustees shall order and direct the sume due to be paid by the Directors, Treasurers for the time being within sixty dayes after the Houses Chambers or Rooms insured are burnt or come to any damage or losse by fire to be published as is herein agreed unto.

18. [*Policy-holders to be Members.*].—That any person receiving a policy doth thereby become a member of the Contribuonshipp and shall pay for every policy two shilling and six pence besides the duty to be applied to the Stock for the benefit of the sd Contribuonshipp to be put out to proceed as herein is agreed.

19. [*Premiums.*].—That eny member shall pay downe beforehand to the Contribuonshipp for the Whole terme of the insurance one shilling and three pence for every hundred pounds secured on brick houses and two shillings and sixpence for every hundred pounds secured on timber Houses by way of premium, houses having party Walls of brick or stone to be esteemed brick houses and houses not having such party Walls to be esteemed timber houses and houses built of brick and timber to be adjudged timber or brick houses as the Directors on report of the Surveyors shall agree and adjudge the same to be alsoe put out to interest as by us agreed.

20. [*Contributions of Members.*].—That every member of the Contribuonshipp shall contribute to the makeing good such losses as shall happen to any of the Houses, Chambers or Roomes insured in proportion to every members interest *provided that no person to be charged for any one losse above ten shillings for each hundred pounds secured on brick houses and double the like rate on timber houses.*

21. That any member may within eight dayes after any rate is declared exame the Registers and except against the same as he or they shall think necessary which upon just cause or error shall be considered and rectified by the sd Directors acting therein and in case of disagreement by the majority of votes at a public meeting.

22. [*Deposit money.*].—That every member receiving his policy shall deposite as a pledge or caution for performance of Covenant the sume of *five shillings* for every hundred pounds secured on brick houses and ten shillings for every hundred pounds secured on timber houses besides the sd one shilling and threepence and Two shillings sixpence for which receipts shall be given and order to repay the same or so much thereof as shall not be forfeited at the end of the terme insured for to be employed at interest and to satisfy charges in the meane time.

23. [*Other Insurance.*].—*That if any house or houses Chambers or Roomes secured or insured in the said Contribuonshipp shall appeare or happen at the same time to be secured*

or insured in any other Office or Society then the insurance of such house or houses in or by this Contribuconshipp shall be null and void any Instrum^t Policy Covenants or other matter or thing to the contrary thereof in anywise notwithstanding.

24. [*Failure to pay Contributions.*].—That if any member shall omitt or neglect to pay his rate or share towards any Losse for twenty five days after publication in the Gazette he shall forfeit double his sd rate or share and if he shall omitt to pay the sd forfeiture for five days after the said five and twenty dayes then he or they shall forfeit all his and their right share and property in the Stock of the Contribuconshipp and also forfeit all his deposite money and from thenceforth at the discretion of a majority of the Directors be excluded the benefit and advantage of the sd Contribuconshipp and his insurance and insurances therein and all benefit thereof and thereby any policy Instrum^t Covenant or matter or thing whatsoever to the contrary thereof in any wise notwithstanding his Covenant nevertheless to remaine in force for what shall be then due and neglected to be paid.

25. [*Members bound by acts of Directors.*].—That all lawful acts, covenants orders and constitutions of the Directors and Trustees shall charge and bind all the members and Subscribers of the sd Contribuconshipp as his or their owne proper act or acts.

26. [*Losses.*].—Every member upon any losse shall forthwith certifie the same to the Directors that persons skillfull may be appointed to view and estimate the same and make report thereof and sett the rate of contribution accordingly.

27. [*Estimating Damages.*].—That such workmen as shall be employed to estimate the damage of any house burnt demolished or dampnified by fire shall be obliged by Covenant or otherwise to erect and build such house or repaire the sd damages at the rate he shall estimate the same in case he be thereto required and the party or member sustaining the losse shall not be willing to take the money at which such damage shall be valued.

28. [*Publication of Losses and Assessments.*].—The substance of the workmens Certificate view and estimate of the damages and examination of the Registers and declaring of the rate and proportion of payment shall be published by affixing the same at the gates of the sd Cities and other public places or in the Comon Gazette.

29. [*Total Losses.*].—That when the Roofe and Floares of a house from the first floor upwards shall be burnt or fall in, that house to be deemed a demolished house and the whole money insured thereon to be paid provided no members share exceed ten shillings and twenty shillings per cent libr as aforesd.

30. [*Incomplete Buildings not Insured.*].—That no house Chamber or Roome shall be esteemed a secured or insured house Chamber or Roome till the same be fully finished and tenantable and the marke of the Contribuconshipp being the two hands joyned with a Crowne over them fixed upon such insured house Chamber or Roome.

31. [*Retiring from Membership.*].—That if any one fire shall be so great as to require ten shillings per Cent libr on brick houses and double the like rate on timber houses as aforesd to make good the losse it shall be lawfull for any member after the payment of his share and remitting all his deposite money to the benefit of the Contribuconshipp to surrender his policy and thenceforth be discharged.

32. [*Extinction of Fires.*].—That Watermen and other labourers be employed in quenching of fires happening to the houses, Chambers and Roomes insured by the Contribuconshipp and to defend them from other adjacent or contiguous fire at the charge of the Contribuconshipp and Badges of the marke of the Contribuconshipp to be given to be worne by twelve of them at the discretion of the Directors for the time being.

33. [*Half-yearly Accounts.*].—That an account shall be made up and stated halfe yearly in the moneths of May and November and the neate profits thereof if any be after all charges expenses and disbursm^{ts} deducted shall be devidd amongst the members of the Contribuconshipp share and share alike according to the value of their severall insurances in proportion aforesd at such time or times as the Directors shall appoint unless a Generall meeting shall otherwise think fitt to direct.

34. [*Death of Members.*].—That in case of death of any member no advantage shall be taken by survivorshipp but the interest of such member so happening to dye shall continue to the Exors Administrators or Assignes of such member dyeing which shall be possesst of the policy or policies of such member deceasing.

35. [*Alteration of Deed.*].—That the Contributors at any General meeting shall have power of making any alterations of and additions to this Settlement for the better managing of the affaires of the sd Contribuconshipp and to oblige all persons interested therein to the observance thereof so as the same be Registered and publicly Enrolled as these presents are intended within convenient time after the making thereof.

36. [*Deed Binding on Members.*].—That these presents and every thing herein conteyned shall be binding and obliging in every respect to all intents and purposes as well to all and every person and persons whatsoever taking polices and becoming Contributors thereby as abovesd their exors, admors, and assignes and every of them as also to all every the person and persons hereto subscribing their exors, admiors and assignes and eny of them. In witness whereof We have hereunto sett our hand and seales the twelfth day of November in the yeare of our Lord, one thousand, six hundred ninety and six.

[*Signed*] Richard Bealing, John Deverell, John Porter, Edward Cockman, R. Reynolds, John Blundell, Thomas Harriatt, Joseph Robinson, Samuel Clothier, Edward Wilcox, Joseph Pasons, Thomas Southouse, Philip Harman, Nich. Baxter, Richard (sic), John Outing, Thomas Pagitt, the mark of Samuel J[-] Hunt, Wa. Baynes, Nicolas Lorne, John Chamberlin, Isaac Ferrett, John Parsons, John Steel, Joseph Craigg, Robert Meades, Henry Lobb, James Trumble, John Mist, Thomas Rathbone, Thomas Fenn, William Meades, Thomas Sarney, Mary Biddle, John Edge, William Strode, Francis Seale, Thomas Cradock, Henry Mace, John Sirett, (sic) Campion, John Hooper, Abraham Bridell, Egbert Hall, Po. Hall, Thomas Bance, Edward More, George Bush, Peter Gelsthorpe, John Boswell, George Mathews, Thomas Sawrines, The marke of George J[/] Pall, (sic) Rodery Jones, John James, William Hughes, Peter Ling, John Cock, Henry Acourt, Joseph Warden, Pr. Chesshire, Robert Eines, Walter Eldred, the marke of Arthur J[-] Johnson, Thomas Yemanes, Simon Cooke, James Gilbert, Richard Collier, Joseph Hayes, George Nockett, Edmund Howard, James Paterson. Signed sealed and delivered in the presence of us, Robert White and Thomas Bawxter.

[*Enrolment.*].—Et memorandum quod vicesimo tertio die Januarii anno regni regis gulielmi tertii decimo prefatus Walter Baynes venit coram dicto domino Rege in Cancellaria sua et recognovit scriptum predictum ac omnia et singula in eo dem contenta et specificata in forma supradicta Necnon scriptum predictum impressatum fuit secundum tenorem statuti factum anno regni regis gulielmi et Marie sexto Irrotulatum vicesimo quarto die Januarii anno regni regis gulielmi terciodecimo.

This Deed in its entirety shows the care which was to be exercised in the conduct of the bus., and the investment of the funds. Sections 17 to 20 inclusive and 23 show the caution that was to be used. It seems clear that the operations of the Asso. were successful almost from the commencement; for early in its hist. the following statement was promulgated, indicating, as had been predicted, that the interest realized on the deposits invested had been sufficient to pay the losses :

There is besides a yearly dividend of profits, arising from the Int. of the Stock, which is so considerable (tho' in the infancy of the office) that it has *not only actually reimburs'd every member all contributions to fires, from the very beginning of the office, but has been a large clear gain to abundance of members in whose time no fire hath happened.*

1701.—On the 15th January, this year, a formal Deed of Trust in relation to the funds of the Asso. was executed by the Trustees for the time being. An iron chest was to be provided, into which all current moneys were to be placed, as prob. also the securities for moneys invested. The deed provided as to where the chest should be placed, who should keep the keys, etc. This deed was duly enrolled.

1705.—The following amendment to the 9th art. of the orig. Deed was made this year, and enrolled [*vide* Close Roll, 4 Anne, Part 2, No. 10]:

At a General meeting of the Contributors for the Insuring Houses Chambers or Roomes from loss by Fire by Amicable Contribution on Thursday the Two and twentieth day of November Ano Dni One thousand seaven hundred and Five by virtue of the power vested in them this Addition to the ninth Article of the originall Deed Was agreed on and concluded (viz.) Except upon Parliamentary security upon which the majority of the Directors for the time being may lend out any sume or sumes of money as they shall think fitt.

We the Directors for the said Contributionship do declare and agree that the Amendment above expressed Was made at the Generall meeting aforesaid and desire that the same may be enrolled in Chancery Witnes our hands and Seales this eighteenth of December One thousand Seaven hundred and Five.

Henry Lobb, Jeremiah Ridge, John Yarwell, Charles Hooper, John Knowles, Thomas Bowles, Isaac Terrett, Edward North, Thomas Highmore, J. Chamberlen, John Turner, John Cleeve, Giles Riddle, Mathew Kennington, John Dee, Richard Hawkins, Bry, Turberville, John Green, Samuell Hooper, Huntly Bigg. Signed, sealed, and delivered (this Parchment being duely Stamp't) in the presence of us, John Walton, John Hawkinson.

[*Enrolment.*].—Et Memorandum quod quarto die Februarii, Anno suprascripto prefatus Carolus Hooper venit coram dicta Domina Regina in Cancellaria sua et recognovit scriptum predictum et singula in eodem contenta Et specificata in forma supradicta Necnon Scriptum predictum impressatum fuit secundum tenorem statuti Anno Regni gulielmi et Marie nuper Regis et Regine Anglie etc. Sexto Irrotulatum die et Anno supradicto. (See 1805, and 1836.)

1706.—The *Friendly Fire* issued a new broadside this year, which contained the following: "*Note.*—This Office insures for the same money as the *Amicable So.* or *Hand-in-Hand* office, who have settled no real fund for the payment of such losses as may happen." This was a little piece of retaliation for the reference to that So. in the early "*Proposals*" already quoted. It is material as showing how early the designation of *Hand-in-Hand* came to be applied to the Contributionship.

This year the following addition was made to the Deed and enrolled [*vide* Close Roll, 5 Anne, Part 1, No. 5]:

At a General Meeting of the Contributors for the Insuring Houses, Chambers, or

Roomes from loss by Fire by Amicable Contribution held at the Office at Tom's Coffee House in St. Martins Lane on Thursday the 16th of May Anno Dni 1706 In pursuance of power vested in them by the originall Settlement for the said Contributors this addition to the said settlement Was agreed and concluded on vizt. That the directors for the time being or the major part of them shall and may from time to time and at any time or times hereafter as they shall think fitt purchase upon a parliamentary security. Wee the directors for the said contribuconshipp doe declare that the amendment above expressed was made at the General Meeting aforesaid and doe desire the same may be enrolled in Chancery. Witnes our hands and seales this fourth day of June Anno Domini 1706. Jeramiah Ridge, Matthew Kennington, Edward North, Giles Riddle, Huntly Bigg, Brian Turberville, Isaac Terrett, John Turner, Richard Hawkins, Thomas Highmore, John Dee, J. Chamberlen, John Greene, Thomas Boules, John Knowles, John Yarwell, Charles Hooper, Henry Lobb, John Cleeve, Samuel Hooper. Sealed and delivered being first duely stamp'd by all the said directors except Samuel Hooper and John Cleeve in the presence of John Hawkinson. Sealed and delivered by the said Samuall Hooper and John Cleeve in the presence of John Hawkinson, John Legg.—Et Memorandum quod decimo quarto die Augusti Anno Suprascripto p[re]fatus Samuall Hooper et Johannes Cleeves venerunt coram dicta Domina Regina in Cancellaria sua et recognoverunt scriptum predictum et omnia et singula in eodem contenta et specificata in forma supradicta Necnon scriptum predictum impressatum fuit secundum Statutum factum anno regni nuper Regis Gulielmi et Regine Marie Sexto Irrotulatum eodem die et anno quinto Regine predictae.

1707.—This Office is stated to have had a Fire Engine of its own at this date ; prob. earlier.

1708.—Hatton, in his *New View of London*, pub. this year, reviewing the several Fire Offices, speaks of this Office as follows :

(3). *Amicable Contributors*, whose office is kept in St. Martin's Lane, was set up about the year 1695. Insurances being made as in the Project of the said Mr. Spelman [*Friendly So.*]; only here they propose Profit to their members of what Int. they can make of the sum paid in, but then such members do bear their proportion of all the incident charges of the office, which those of the *Friendly So.* do not. This office have several watermen who they employ to extinguish Fires, and give Liveries and Badges to them, but have no Land Security as the other two have; their number is upward of 13,000 [members]; but see 1718]. *This Office is chiefly carried on and supported by workmen and those concerned in Building, who sign the Pol.*

This last fact prob. not only explained the growth of the Office, but also its favourable experience in the matter of Fires. The builders would know the best risks.

1711.—The following further alterations and additions were made to the Deed and enrolled [*vide Close Roll*, 10 Anne, Part I, No. 12]:

Alterations of and Addition to a deed of Settlement of a Contribuconshipp for insuring houses against loss by Fire bearing date the 12th day of November 1696. Made and confirmed at the several general meetings hereinafter mentioned (viz.) At a General meeting of the members of the Amicable Contribuconshipp for insuring houses against loss by Fire held at Tom's Coffee House in St. Martins Lane on Thursday the 18th of May [?]

ORDERED that any member of the Contribuconshipp that doth or any time hereafter shall serve this society in the way of his profession in business with any goods or comodities in the way of trade or by deputation to any other person for private advantages that during his so serving this So. be incapable of being a Director or serving as such and if such happen to be chosen it shall be in the power of the Directors for the time being to choose another or others in his or their place or places so rendered incapable.

At a General meeting of the members of the *Amicable Contribuconshipp* for insuring Houses against loss by Fire held at Stationers Hall near Ludgate on Thursday the 16th day of November 1710.

Ordered and agreed that every member or members of this Contribuconshipp that is at present or shall become a Debtor to the said Contribuconshipp for any sum or sums of money borrowed upon any mortgage or otherwise shall be incapable of being a Director during his or their being a debtor or debtors to this So. and if any such person or persons be chosen such person or persons shall be incapable of serving as such, that the directors for the time being have power to chose others in his or their place or places in such manner as is usual in cases of death removal or otherwise. ORDERED that all Generall meetings shall be held within the City of London and begin at three o'clock in the afternoon and to continue one hour at least after the Chairman is chose.

ORDERED that to prevent mistakes surprise or Inconviences all orders for the future to be made at one General meeting shall be confirmed at the next succeeding general meeting before they be in force or be enrolled.

At a General meeting of the members of the *Amicable Contribuconshipp* for insuring houses against loss by Fire held at Stationers Hall near Ludgate on Thursday the 17th day of May 1707.

All the orders made at the last general meeting held on Thursday the 16th day of November 1710 read agreed unto and confirmed.

ORDERED that all the persons insuring for the future shall not pay for their Policies but only for the Stamp Duty.

ORDERED that one half of the Directors that shall be chosen for the future be of such persons as live within Temple Barrs and Holbourn and the other half of such as live without the said Barrs.

ORDERED that a General Office be provided within the City of London and that the directors be desired to consider of a proper Office for the Same.

At a General Meeting of the *Amicable Contribuconskip* for insuring Houses against loss by Fire at Stationers Hall near Ludgate on Thursday the 14th day of June 1711.

ORDERED and confirmed that all persons Insuring for the future shall not pay for their policies but only for the Stamp Duty.

ORDERED and confirmed that one half of the Directors that be chosen for the future be of such persons as live Eastward of Temple barr and Holbourn Barrs so far as the Office Insures and the other half Westward of the said Barrs likewise so far as the Office Insures.

ORDERED and confirmed that a *General Office be provided within the freedom of the City of London* and that the directors do provide a proper place for the Same.—John Darby, Tho: Dodd, R. Hawkins, Richard Mount, Tho Taylor, John Milner, John Taylor, John Kinch, John Turner, Giles Riddle, Edward Salisbury, W. Bourne, John Ookey, John Jones, Reuben Parke, George Dyer. Sealed and delivered being duly stamped in the presence of John Hawkinson, John Legg.—Et memorandum quod quinto die Junii Anno suprascripto Thomas Taylor venit coram dicta domina Regina in Cancellaria Sua et recognovit scriptum predictum ac omnia et singula in eadem contenta et specificata in forma supradicta Necnon Scriptum predictum impressatum fuit secundum Tenorem Statuti Anno regni nuper Regis et Regine Gulielmi et Marie Anglie &c. Sexto Irrotulatum quinto die Julii Anno ut predicto.

1714.—This year there was founded the “*Union, or Double Hand-in-Hand Fire Office*, for insuring Goods and Merchandizes by Mutual Contribution, in the way of the *Hand-in-Hand Office* for Houses.” While the *Hand-in-Hand* only insured the buildings, the new Office—the *Double Hand-in-Hand*—proposed to insure the contents of these buildings, *i.e.* the furniture, stock-in-trade, and movable effects. The operation of this new Asso. was also confined to the cities of London and Westminster, and the Bills of Mort. About this date the *Hand-in-Hand* inserted a clause to the following effect in its Deed [sec. 35], “The Directors of this Office not being Directors of the *Union Fire Office* for Goods, to determine all appeals about losses brought before them by the Directors or any sufferers in that Office.”

It is certain that there was a working arrangement between the two Asso.

In the *Gazette* of 12 January, this year, was contained the following :

The Directors of the *Amicable Contributorship* for Insuring Houses from Loss by Fire give notice, That pursuant to the Resolutions of the two last general meetings of the Contributors all Policies either new or renewed directed to be made out and not taken away in three months after are to be cancelled ; and the Earnest money on such new Policies is to be sunk, and the Charge of the Policies and stamps of such Renewals is to be deducted out of the Deposit money of every such old Insurer. And all Deposit money not Demanded in 6 years after the expiration of each respective Policy is likewise to be sunk to the Benefit of the Contributorship.

The head office of this Asso. was now in Snow Hill.

1717.—The *Westminster Fire Office* was founded this year upon the model of the *Hand-in-Hand*, and in consequence of this office being moved from its old quarters in St. Martin's Lane to the City.

1718.—The progress of the Asso. up to this date had been very steady, notwithstanding the statement of Hatton (in 1708). The total number of houses insured by it in the 22 years of its existence up to 26 June this year was 3666. See 1732.

1720.—In the *Daily Courant* of 8 April, appeared the following :

Hand-in-Hand Fire Office.—The Directors having received information that the late dreadful Fire at St. Catherine's was occasioned by the sole notorious carelessness of one John Hilliar, then servant to Humphrey Parsons, Esq. ; do hereby promise a reward of 10 guineas to any person or person who shall discover and secure the said John Hilliar, so as he be convicted of the said crime, to be paid by their clerk at their office on Snow-hill ; to which place all persons are desired to repair who have any demand upon the office on the account of the said Fire, and have not already made their claims and received satisfaction for their losses.

In the *Lond. Gazette*, 17-21 May, this year, appeared the following :

The Directors give notice, That a general meeting of the Contributors of the said So. will be held at their office in Angel Court, on Snow-hill, on Friday the 20th of June next, by 3 in the afternoon : *Where all who have insured in the office are desired to be present.*

1722.—The limits of operations were now extended beyond the Bills of Mort., to Chelsea, Kensington Gavel-pits, Paddington, Mary-le-bone, Pancras, Hampstead, Highgate, Stoke Newington, and Camberwell.—See 1731.

1731.—In May this year a new prospectus was issued, in which was set forth the prosperous condition of the So. ; and the universal approbation and encouragement it had met with from the public sufficiently evidenced the happy continuance, faithful management, and stable security thereof : it being apparently preferable, by the nature of its constitution, to all others of a different foundation, having not only overcome the hazardous state of its minority, but advanced its stock to such a height that the interest coming in was more than double the constant yearly expenses ; and which, being under the most frugal and disinterested management, might reasonably be esteemed a certain security to

all its members and beyond comparison superior to what any other office could pretend to! This is a fair example of the style of announcements then indulged in; and competition was very keen at this period.

The operations of the So. were now extended generally to places within about 10 miles of London and Westminster. The prem. was 4s. p.c. on brick, and double on timber for any sum from £1500 to £2000 insured within these limits: which insurance might be for any term of years not exceeding 7; and for any sum not exceeding three-fourths of the value of the buildings insured.

It is seen from this that the limits of the sum insured on any one risk had been increased up to £2000; beyond which the managers could not go without the assent of a general meeting. But upon public buildings consisting of separate blocks or wings, constituting separate risks, this limit might be taken on each separate portion.

At the end of every year, or oftener, the rates of contribution to fires, and dividends and profits were to be stated by the Directors: which rates were regis. in a form for reference by all members.

1732.—That this Office felt the competition of the new Offices which had been formed about 1720 is evident from a variety of circumstances. Maitland, in his *Hist. of Lond.* at this date, says: By the numerous Fire Offices of late erected in this city and suburbs, the number of houses insur'd in this Office (notwithstanding its good security, and great advantages) are greatly decreased: for by the account of the Office on the 30th Sept. 1732, the number of houses insur'd therein only amounted to 45,873, and the sum insur'd thereon to £11,612,000.

The Office had on the whole transacted a very profitable bus.; for notwithstanding that it started without any capital, and with nothing but the subs. of the insured, it had on the 23rd Oct. this same year accumulated funds amounting to £55,247 7s. 2½d.; the income from which was stated to amount to double the working expenses of the Office—the surplus beyond such working expenses being divided amongst the policy-holders every seventh year. The Office had 24 Directors, who gave their services “gratis.”

1735.—The *Union* Fire pub. a revised and extended scheme of operations this year, of which we have given a detailed account under FIRE INS., HIST. OF. The arrangement between the two Offices still continued. (See 1714.)

1737-8.—By order of two meetings of the So. on the 10th Nov. 1737, and the 11th May, 1738, reciting that every ins. became void at the time when the interest of the person or persons in the property insured, expired, it was ordered that, on applying to the Office, and declaring their interest in the house or houses insured to be expired, all persons might have their accounts adjusted, and the deposit due at that time paid to them; and that in case they did not make such application, *nor assign* their pol. or policies to the person or persons having the interest of the house or houses insured, such person or persons, being possessed of the property, might insure the said house or houses in the office, notwithstanding the time for which ins. by the former pol. or policies was made, had not expired.

1743.—In this year arose the case of *The Sadlers Co. v. Badcock* and others (Trustees for *Hand-in-Hand*), wherein it was *Held*, that the insured must have an interest in the property insured not only at the time of ins., but at the time of the loss. Here the lease had expired, and the property had passed into other hands; and although the pol. had been assigned, the So. were no party to it, and was not liable for loss which occurred after such assignment. [FIRE INS., CONDITIONS OF.]

1752.—The *Philadelphia Contributionship for the Ins. of Houses from Loss by Fire* was founded this year, upon the scheme of this So., and became and remains a flourishing enterprise. The Deed of Settlement and other forms of this Office were used; but the badge or fire-mark adopted was that of the *Union* Office—four hands crossed. [FIRE INS., HIST. OF.]

1777.—Harrison, in his *Survey of London*, gives the following account of this So.:

Opposite St. Sepulchre's church is Angel Court, in which is situated THE HAND-IN-HAND FIRE OFFICE. This Office was established in the year 1696 for insuring houses only. Every insurer signs a deed of settlement, by which he is not only insured, but also insures all that have signed that deed from loss in their houses by fire; so that every person, thus insured, is admitted into joint partnership, and becomes an equal sharer in the profits and loss, in proportion to their respective insurances.

The conditions of insurance are 2s. per cent. premium, and 10s. deposit on brick houses, and double those sums on timber houses. No more than £2000 can be insured in one pol.

The affairs of this Office are managed by 24 Directors, who are chosen by the persons insured in rotation and serve the office three years without any reward. This Office keeps in its service 30 firemen, who are protected from being pressed, are annually clothed, and wear a silver badge, with two hands joined and a crown over them.

1780.—It was stated to be the practice of the Office about this date, that of its 24 Directors, 12 were to reside eastward, and 12 westward of Fleet and Holborn bridges: this in order to a better knowledge of the risks in each portion of the metropolis. Eight new Directors were chosen every year, on the three days preceding the Nov. meeting.

The Directors had power to apply the ins. money to the re-building of the premises.

The limits of the bus. had become much extended, and included most of the *Home Counties*.

1797.—In the case of *Mildmay v. Folgham* [Trustee of *Hand-in-Hand*], it was decided by the Court of Chancery this year, that under the constitution of this Office, the

heir to whom, upon the death of the insured, the property, being freehold, descended, could not have the benefit of the pol. without assignment. (See 1737-8.)

1805.—A second Deed of Sett. was prepared for the Asso. at this date, bearing date 4 June, by which the class of bus. to be undertaken by the Co. was extended, so as to include Goods, Merchandize, Stock-in-Trade, Farming Stock, Implements of Agriculture, in add. to Houses and Buildings. The title of the So. was now changed to *The Hand-in-Hand Contributionship or So. for the Ins. of Houses and Goods from Loss or Damage by Fire.*

Various alterations, of a not very radical character, were made in the Constitution of the Asso., viz.: It was declared that all persons should be deemed members of the So. who should for the time being stand insured therein upon a 7 years' pol., whether such pol. should have been made out in their own names, should have devolved to them by death, or should have become their property by assignment duly entered in the books of the Office. Provisions were also made for the holding of gen. meetings. The resolutions made at one gen. meeting were to be proposed for confirmation at the next. This Deed was duly enrolled. (See 1836.)

The first return of Fire Ins. Duty collected by the various Fire Offices was pub. this year. The *Hand-in-Hand* stood 8th in the list of Metropolitan Fire Offices—the amount collected by it being £12,120 11s. 3d. during this year.

The bus. was now extended to most parts of Great Britain.

1820.—The case of *Alchorne* and others v. *Saville* and others [Trustees of *Hand-in-Hand*] was before the English Courts this year, when the point turned upon the construction of the pol.; and it was determined (by the Court of King's Bench) that the remedy under this contract was in a Court of Equity. [MUTUAL INS. ASSO.]

The So. at this time was issuing fire pol. for one or more years, *annually renewable*; but these persons had no participation in profits. (See 1876.)

1836.—*New Constitution.*—A new Deed of Sett. was prepared for the Asso. under date 12 July this year, which it is necessary we shall notice in some detail, in consequence of the important changes it introduced. It recited:

1. The limits of bus. had been gradually extended, so as eventually to comprehend every part of Gt. Brit.

2. The nature of the risks undertaken had been enlarged, as shown under the new Deed of 1805.

3. Divers alterations had been made pursuant to the powers of the new Deed of 1805.

4. "And whereas from the state of the accumulated fund or rest of the said So., and from the advantageous employment for cap. afforded by the bus. of a Life Ins. Office in its various branches, it is considered desirable that the said So. should add to its objects the making of Ins. on Lives and Survivorships, the Sale and Purchase of Endowments, and Life and other Annuities, and all such other matters as are usually transacted or negotiated by Life Ins. Offices; and that the funds and estab. of the said So. should (under the provisions hereinafter contained) be applicable to those objects as well as to Fire Ins."

5. It was proposed that "the style of the said So. should accordingly be altered in manner hereinafter mentioned."

6. "And whereas in order to improve the constitution of the said So., and to adapt it to its altered circumstances, it has been considered advisable that the former regulations for the management of the said So. should be rescinded, and that a new D. of Sett. should be executed with such provisions as are hereinafter contained."

7. Accordingly a new Draft Deed was laid before the members at the general meeting of 3rd May, and each "article, clause, matter and thing" therein contained was approved; and the same was confirmed by an extraordinary gen. meeting held 31 May.

8. "And whereas the said several persons whose names are mentioned in the schedule hereunder written, or hereunto annexed (being the present members or Septennial Insurers of the said So.), have also individually consented to the aforesaid addition to the objects of the said So., and to the said change in its style and constitution, and have accordingly agreed to signify the same by respectively executing these presents."

It was therefore witnessed "that for the purpose of remodelling the said So. and the constitution thereof in manner aforesaid":

i. That the said several persons and corporations, parties to these presents, all of whom are hereinafter distinguished by the title of members, and the several other persons and corporations who shall become and for the time being continue members, as hereinafter mentioned, shall be, and, unless dissolved as hereinafter mentioned, ever continue a So. under the style of "The *Hand-in-Hand* Fire and Life Ins. So."

ii. That the objects and bus. of the So. shall be to Insure Houses and other Buildings, Goods, Merchandize, Stock-in-trade, Farming Stock and Implements of Agriculture, Household Furniture, and all other Personal Property whatsoever from Loss or Damage by Fire; and also to make Ins. on Lives and Survivorships, to Sell and Purchase Endowments, and Life and other Annu., and to transact and negotiate all other matters whatsoever usually transacted or negotiated by Life Ins. Offices according to law.

Then follow the powers for carrying out the above; but which we shall only notice in abstract, as these have again been superseded by later regulations (1875), such points as may require any especial elucidation.

Members of the So. were to be those insured for £1000 fire under a septennial pol., or for £1000 upon a parti. pol. of 2 years' standing (22). An increasing scale of votes for larger ins. (23). Two extraordinary gen. meetings may make new laws (38). Number of Directors, maximum 15, minimum 12 (40). Qualification £5000 fire (septennial pol.); £2000 life (44). Remuneration £1500 p.a. (56). Board to fix rates and regulations for *Fire Ins.* (80). Ditto as to *Life* (81). There is to be a statement in pol. that the funds in the hands of the Trustees shall alone be liable to make good any claims (84). Septennial pol. may state whether holder should be a member; but if not stated, membership follows as of course (85). Fire pol. to contain restriction against loss by invasion or civil commotion (86). In Life pol. provision might be made against unusual mort. (88). Members to execute deed if required (89). All engagements under former constitution of So. to be completed (90). Directors may apply ins. money to rebuilding houses destroyed by fire (96). Expenses of man. to be apportioned between the Departments as Directors may determine (106). No officer of the So. to be connected with any similar So. (128). Arbitration (135). (See 1875.)

Life Business.—Here, for the first time, the So. took powers for transacting Life bus. A prosp. was accordingly issued, from which we draw the following passages:

The *Hand-in-Hand Life Ins.* Office has been estab. on the principle of reducing Life Ins. to the lowest scale consistent with security.

Persons effecting ins. for the whole term of life may insure either as members of this So. under the rules hereinafter set forth, or as non-members at a lower rate of prem. But no person effecting an ins. for a less period than the whole term of life can become a member.

Whilst the members are in effect mutual insurers, they are protected from personal liability by the rule which makes the funds alone liable to demands upon the So.

No distribution of profits will take place during the first 5 years from the estab. of the Life Depart. In the 6th year an account will be taken of the engagements and property of the So. and a large proportion of the profits will then be applied to the reduction of the prem. of its members. But in case it should be preferred that the shares of such profits shall be applied in making add. to the sums insured, or in money payments, either of these plans will be adopted at the option of the insured. *In each subsequent year a similar account will be taken, and a large proportion of such profits will be annually distributed amongst those members who shall have been insured for 5 years at least, in the manner above specified. The advantage upon each ins. being in proportion to the amount of profit realized.*

The Rules of the Office required 5s. per £100 insured for Entrance money from members only [since abolished]. All prems. became payable ann. on 24 June. The limit of ins. was £5000. The prosp. also contained the following:

After mature deliberation on the various systems in use for insuring lives, the Directors were fully convinced that the one adopted by the *London Life Asso.* offered greater benefits than any other: they accordingly determined on selecting the orig. plan of that Inst., by annually distributing the whole of the profits among the members after 5 complete payments. . . .

To entitle new members, however, to this important advantage, they are required to pay an increased prem. for a period of 7 years before they are allowed to parti. equally with old members.

Another prosp. pointed out:

This Ins. Office has been estab. as a Fire Office more than a hundred years, commencing in 1696, and possesses a cap. accumulated during that long period, and now invested in the public funds.

The first Actuary of the Life Depart. was Mr. J. M. Terry.

The first division of profits accordingly took place in 1842, and the following T. shows the rate of reduction of prem. to which the orig. members have since become progressively entitled:

Years.	Rate of Abatement.
24th June 1842 to 23rd June 1845	45 per Cent. each Year.
" 1845 to " 1849	50 " "
" 1849 to " 1864	52½ " "
" 1864 to " 1869	55 " "
" 1869 to " 1874	60 " "
" 1874 to " 1879	65 " "
" 1879	70 " "

In 1864 a *Second series* of Life members was commenced. The reduction of prems. in this series is now from 60 to 70 p.c.

In 1868 the following return of the position of the Life Depart. was made on 24 Dec.:

Claims paid on life pol. to this date, £738,092; returned in abatement of prems. £555,544. *Assets.*—Accumulated fund, £1,252,174; present value of life Prems., £1,271,369. *Liabilities.*—Present value of sums ins. (£3,166,596), £1,542,361; present value of life annu. (£8737 p. ann.), £68,295.

1870-2.—On the passing of the Life Assu. Cos. Acts of these years the directors took steps for the creation of a special Life Fund. As all the then existing funds were held available for Fire as well as Life pol., the only course open was to carry the receipts from all new Life pol. into a separate account, and this course was accordingly taken.

And in 1874, a *Third series* for all parti. pol. issued after 24 June that year. The pol. of this series to be entitled for the first 5 years to 25 p.c. less; for the second 5 years to 20 p.c. less; and thereafter to a permanent abatement of 15 p.c. less than those of the old series.

The Rep. up to the close of 1878 gave the following add. details regarding the Life branch:

342 proposals were received for £262,733. 278 new pol. were issued for £194,008, the prems. amounting to £6698. The total prems. (after deducting £4049 14s. 10d. paid for re-ins.) show an increase of £1711 7s. 5d. over those of 1877, and amounted to £137,975 13s. 4d. The bonuses paid during the year amounted to £65,642 19s. 7d.

The funds on 1st January, 1878, amounted to—General accumulated fund, £1,614,614 2s. 9d.; life assurance fund (under Act of 1870), £165,432 11s. 11d.; total, £1,780,046 14s. 8d. Increase during the year, £32,759 12s. 8d.

The total of the funds on 31 Dec. 1878, being as follows:—Gen. accumulated fund £1,613,033 5s. 11d.; life assurance fund (under Act of 1870), £199,773 1s. 5d.; total, £1,812,806 7s. 4d.

After setting aside the value of the life liabilities (calculated on the *Inst. of Actuaries* H.M. Table, with int. at 4 p.c., and including a provision for the permanent maintenance of a maximum abatement of prem. of 65 per cent.), the unexpired prem. of all existing fire pol. and the accrued bonuses on those entitled to profits, there remains a surplus of £369,314 available for distribution amongst the members and policy-holders.

This surplus enables the Directors to make an increase of 5 p.c. in the life abatement (a corresponding reversionary bonus being added to the pol. of those members who elect to continue paying the full prem.), and on ann. fire pol. to increase the return of profits from 20 to 25 p.c. of the prem., and further to apply this return to pol. of two years' standing and upwards, instead of confining it, as heretofore, to those of five years' standing and upwards.

For the year commencing 24th June next, therefore the premiums will be reduced by returns out of profits as follows:—

Life—Members' policies, old (1st) series 70 p.c., 2nd ditto (maximum) 70 p.c., ditto (minimum) 60 p.c.; 3rd series (in force 5 years and upwards) 45 p.c.

1874.—The general position of the So. on 31st Dec. this year was as follows: accumulated fund, £1,574,118; ann. income from investments and prems., £217,374; sum ins. on life pol., £3,795,764; amount of claims paid on life pol. from Lady-day, 1836, the date of the commencement of life bus., £1,163,197; amount of profits returned from same date, £858,152; amount paid in respect of annu., £291,279; sum ins. on fire pol. £14,293,073; amount of claims paid on fire pol. from the above-mentioned date, Lady-day, 1836, £239,993; amount of profits returned on septennial fire pol., £25,010.

1875 6.—A new set of Rules, Regulations, and Provisions was adopted at this date (Dec. 1875—Jan. 1876), of which we shall only notice any points varying from the regulations of 1836. Qualification for membership £1000 pol. either fire or life (not containing provision against membership) (4). Register of qualified members to be kept (5). Ann. general meetings to be held (11). Votes of members (30). The Directors may call upon holders of pol. to sign same (99). Substituted pol. may be granted (105). There may be an ann. division of surplus (108). Directors may take steps to incorp. So. (115). Life or Fire bus. may be discontinued (116). Members not personally liable for engagements (121).

1876.—The Directors resolved to make an ann. return of profits on ann. Fire pol. of 5 years' standing or upwards, at the rate of 20 p.c., such return having previously been restricted to septennial pol.

1879.—The 183rd Rep. up to the close of this year contained the following details: In each department the losses were above the average: yet the deaths alike as regards number and amount were under the actuary's estimate. The increase in the funds during the year was £62,271. In the *life* department 292 pol. were issued for £193,515, prems. thereon £6603; the total life prems. being £139,505. The bonus returns to the assured amounted to £64,216 for the year. In the *fire* department the prems. showed an increase of £2857 over the previous year, and amounted, after deduction of re-assurances, to £31,444. The losses were upwards of 59 p.c., and after payment of these and expenses, the policy-holders received £4089 as bonus returns. In the last 10 years the fire results were as follows:

Premiums, £215,916. Losses, £103,290 (47'84 p.c.); expenses and commission, £59,742 (27'67 p.c.); bonus returns, £15,359, (7'11 p.c.); increase to funds, £37,524 (17'38); the accumulated funds stood at £1,875,078.

It remains to be added that this venerable Asso., after pursuing a course of honourable, successful management, for nearly two centuries, finds itself in the highest prosperity.

The present chief officers are Mr. Benjamin Blenkinsop, Sec. and Man.; and Mr. James Terry, Actuary.

